

This is former Senator David Vitter, following up on the En+/Rusal sanctions delisting issue.

When OFAC made the decision to remove sanctions from the companies, many members were understandably suspect of the major corporate reforms and restructuring on which the decision was based. Many specifically did not believe that Oleg Deripaska had in fact been stripped of control of the companies.

One extremely powerful verification that this has in fact happened comes from the market. J.P. Morgan/Cazenove and Bank of America/Merrill Lynch have recently resumed coverage of the companies with very favorable reports. These investment leaders have billions of dollars and enormous reputational assets on the line with regard to all of their statements and recommendations. Therefore, it is extremely noteworthy that they both completely validate the significance of the En+ corporate reforms and restructuring, including the fact that Oleg Deripaska has been completely stripped of control of the companies.

Below is the relevant discussion from the J.P. Morgan/Cazenove report:

Corporate governance transformation complete: new shareholding and Board structures in place

Over the past 18 months En+ has undergone a significant corporate transformation on the back of the successful execution of the "Barker Plan" – an action plan prepared and implemented under the leadership of Executive Chairman Lord Barker to facilitate the removal of US OFAC sanctions on company. Key parameters of the "Barker Plan" included: 1) restructuring of En+ ownership structure and governance (including the change of En+ & RUSAL's Boards to consist of majority of independent directors), 2) ongoing commitment to transparency and regulatory auditing, and 3) Glencore's exchange of 8.75% interest in RUSAL for 10.55% stake in En+.

As a result of the changes made, major shareholder Oleg Deripaska has been effectively removed from operational control of En+ with his ownership stake falling from Dec'17 of 66% (post-IPO) to current 45% of holding and 35% of voting rights. Thus, currently ~2/3rds of the votes are independent of the former majority shareholder.

Table 7: En+ Group Senior Management Team overview (as of Jun'19)

Lord Greg Barker, a former UK Member of Parliament and UK Minister of State for Energy & Climate Change, continues to be Chairman of the Board (in capacity of executive Chairman since Feb'19), but its composition has been completely changed from its immediate post-IPO state. Over Jan'18-Jan'19, several members have resigned and in Jan'19, as a condition to company's removal from OFAC's SDN list, 7 new independent directors were appointed, bringing the share of directors independent of Mr. Deripaska to 2/3rds of the Board (i.e. 8 out of current 12 members). According to new corporate arrangements, Mr. Deripaska can nominate no more than 4 out of 12 directors to En+ Group's Board.

In line with changes to the Board, a new management team for En+ Group has also been put in place over the course of 2018 – Vladimir Kiriukhin replaced Vyacheslav Solomin as CEO and Mikhail Khardikov replaced Andrey Yashchenko as CFO.

I hope this is useful information. Of course, please email or call with any questions

David

Disseminated by Mercury Public Affairs, LLC, a registered foreign agent, on behalf of Lord Gregory Barker of Battle PC. More information is on file with the Department of Justice, Washington, DC.

J.P.Morgan CAZENOVE

En+ Group

Material re-rating potential & attractive returns - OW,
PT \$14.9/GDR

We resume coverage of En+ Group, a vertically integrated Russian aluminium & power producer, which effectively controls leading aluminium producer RUSAL via a 50.1% stake, currently worth \$2.8bn or ~63% of En+ Mcap. Simultaneously we resume coverage of RUSAL with an OW rating and a Dec'20 PT of HK\$6.8/sh ([link](#), covered by Patrick Jones). The US OFAC sanctions imposed on En+ and its subsidiaries on 6th Apr'18 were lifted on 27th Jan'19, following the successful execution of the "Barker Plan". Since our Dec'17 [initiation](#) shares have materially de-rated and currently trade ~50% below the IPO price (\$14.0/GDR). As a result, valuation doesn't look expensive vs peers and 10%+ dividend yields screen attractive, if dividend policy remains intact. We see re-rating potential for En+, driven by significant upside in RUSAL's equity value on ongoing deleveraging. Our SOTP-based Dec'20 PT is US\$14.9/GDR, ~120% above current share price, and we assign an Overweight rating. That said, in common with RUSAL, we believe corporate governance risks remain heightened and estimated effective free float of just ~8% plus low share liquidity may mean investors could be more attracted to RUSAL, which in turn may constrain En+ shares' re-rating to full potential in the medium term.

- **Sanctions mitigation complete:** Following successful execution of the "Barker Plan", major shareholder Oleg Deripsaka has been removed from operational control with his stake falling from 66% (post IPO) to current 45% of holding and 35% of voting rights. A new Board with >50% share of independent directors has also been installed.
- **Valuation upside from RUSAL stake:** A 50.1% stake currently owned by En+ in RUSAL accounts for ~63% of spot En+ \$4.4bn market cap. JPM's valuation of RUSAL (OW, Dec'20 PT of HK\$6.8/sh, [link](#)) implies ~\$6.6bn value for the 50.1% stake, ~140% above its current market value (~\$2.8bn). Forecast re-rating of RUSAL thus accounts for ~75% of expected upside in En+ shares. En+ stake in RUSAL should rise to ~57% by Feb'20, when the deal with Glencore is finalized.
- **Potential resumption of dividend payments a positive catalyst:** Disrupted by US sanctions, both RUSAL and En+ didn't declare dividends for 2018. A resumption of dividends should be a positive catalyst for En+ in our view, as it would imply a yield that we estimate could approach ~15% pa if current dividend policy remains intact.
- **Valuation:** On JPM base case forecasts, En+ shares trade at an attributable 2019/20E EV/EBITDA of 6.8x/5.7x. 27%/29% FCF yields and 7%/14% dividend yields. Our SOTP valuation yields a Dec'20 PT of US\$14.9/GDR, ~120% above current price. We assign an OW rating.

Sources for: Style Exposure – J.P. Morgan Quantitative and Derivatives Strategy; all other tables are company data and J.P. Morgan estimates.

See page 16 for analyst certification and important disclosures, including non-US analyst disclosures.

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10 June 2019

Overweight

Previous: Not Rated

ENPLq.L, ENPL LI

Price (07 Jun 19): \$6.94

Price Target (Dec-20): \$14.90

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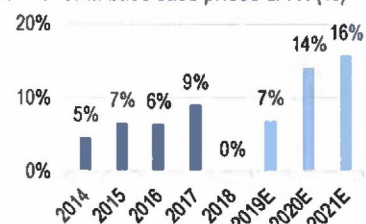
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Style Exposure

| Quant Factors | Current Rank | Historical Rank | | | |
|---------------|--------------|-----------------|----|----|----|
| | | 6M | 1Y | 3Y | 5Y |
| Value | 3 | 1 | 1 | 90 | |
| Growth | 88 | 44 | 1 | | |
| Momentum | 49 | 62 | 95 | | |
| Quality | 34 | 39 | 3 | | |
| Low Vol | 95 | 98 | 98 | | |

Figure 1: En+ Group declared dividend yield under JPM base case prices & FX (%)



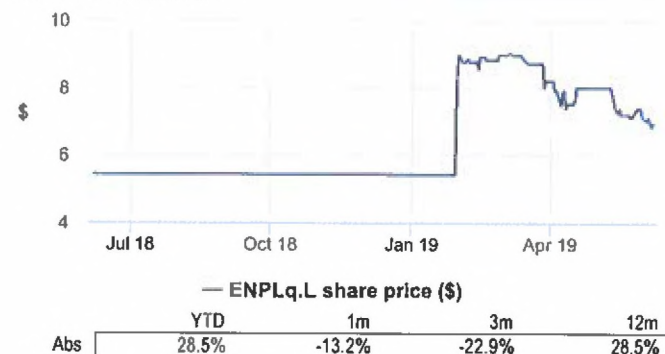
Source: J.P. Morgan estimates, Company data. Note: Priced as of midday 7th Jun'19.

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Price Performance



Company Data

| | |
|----------------------------|-----------|
| Shares O/S (mn) | 639 |
| 52-week range (\$) | 9.02-5.40 |
| Market cap (\$ mn) | 4,433.61 |
| Exchange rate | 1.00 |
| Free float(%) | - |
| 3M - Avg daily vol (mn) | 0.00 |
| 3M - Avg daily val (\$ mn) | 0.0 |
| Volatility (90 Day) | 78 |
| Index | - |
| BBG BUY/HOLD/SELL | 4/1/0 |

Key Metrics (FYE Dec)

| \$ in millions | FY18A | FY19E | FY20E | FY21E |
|----------------------------|--------|---------|--------|--------|
| Financial Estimates | | | | |
| Revenue | 12,378 | 11,655 | 12,448 | 13,552 |
| EBITDA | 3,032 | 2,487 | 3,008 | 3,407 |
| Adj. EBITDA | 3,287 | 2,517 | 3,008 | 3,407 |
| Adj. EBIT | 2,280 | 1,716 | 2,139 | 2,516 |
| Adj. net income | 967 | 1,032 | 1,093 | 1,248 |
| Net income | 967 | 1,032 | 1,093 | 1,248 |
| Adj. EPS | 1.56 | 1.63 | 1.71 | 1.95 |
| BBG EPS | 2.38 | 2.30 | 2.72 | 2.67 |
| Net debt | 11,094 | 9,791 | 8,913 | 7,704 |
| Cashflow from operations | 1,708 | 3,132 | 2,336 | 2,585 |
| Investing cashflow | (452) | (448) | 397 | 308 |
| FCFF | 752 | 1,717 | 1,826 | 2,068 |
| Margins and Growth | | | | |
| Revenue growth | 2.3% | (5.8%) | 6.8% | 8.9% |
| EBITDA growth | 2.0% | (23.4%) | 19.5% | 13.3% |
| Adj. EPS growth | 9.5% | 4.4% | 5.1% | 14.2% |
| Ratios | | | | |
| Adj. tax rate | 17.9% | 21.7% | 25.8% | 25.9% |
| Net debt/EBITDA | 3.4 | 3.9 | 3.0 | 2.3 |
| ROCE | 12.5% | 8.9% | 10.3% | 12.6% |
| ROE | 41.6% | 31.1% | 25.0% | 24.6% |
| Valuation | | | | |
| FCFF yield | 17.5% | 39.0% | 41.2% | 46.6% |
| Dividend yield | 1.7% | 0.0% | 17.3% | 15.1% |
| EV/EBITDA | 5.5 | 7.0 | 5.6 | 4.7 |
| Adj. P/E | 4.4 | 4.3 | 4.1 | 3.6 |
| P/BV | 1.3 | 0.9 | 0.7 | 0.6 |

Summary Investment Thesis and Valuation

- Our Overweight recommendation on En+ Group reflects our view that: 1) we see significant valuation upside presented by its >50% stake owned in UC RUSAL and 2) at JPM base case commodity prices & FX we forecast attractive shareholder returns and a gradual improvement of group balance sheet health.
- Recently completed corporate transformation has also diminished associated governance risks, in our view.
- Our Dec'20 Price Target is based on a sum-of-the-parts valuation without any conglomerate premium or discount applied. We value the group's shareholding in UC RUSAL based on JPM PT and the Energy segment on a 50/50% blended DCF and DDM.

Performance Drivers

| | |
|----------|-----|
| Market | 0% |
| Country | 0% |
| Macro | 7% |
| Style | 11% |
| Idiosyn. | 82% |

| Factors | 6M Corr | 1Y Corr |
|------------------------------|---------|---------|
| Market: MSEUEMEA Index | 0.10 | 0.07 |
| Country: Russia | -0.03 | -0.01 |
| Macro: | | |
| JP Morgan GBI-EM Global Div | 0.36 | 0.18 |
| JPM Forecast Revision EM | 0.18 | 0.15 |
| JPM EM Currency(EMCI) Fixing | 0.29 | 0.13 |
| Quant Styles: | | |
| Size | -0.36 | -0.26 |
| Quality | -0.27 | -0.25 |
| LowVol | -0.25 | -0.18 |

Sources for: Performance Drivers – Bloomberg, J.P. Morgan Quantitative and Derivatives Strategy; all other tables are company data and J.P. Morgan estimates.

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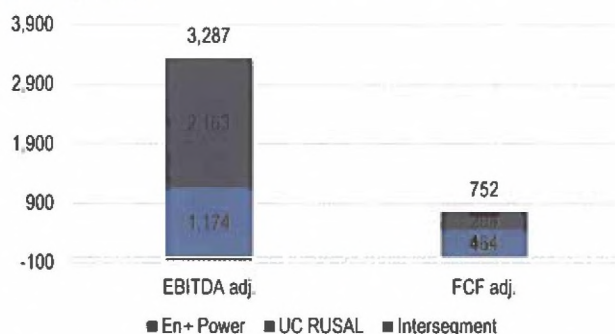
Company overview

En+ Group owns a 50.1% stake in the world's 3rd largest aluminium producer RUSAL (OW) and 100%-owned hydropower generation assets in Russia

En+ Group controls assets spanning the entire aluminium production chain – via RUSAL's vertically integrated smelters are predominantly powered by the group's nearby hydropower plants, while the combined heat & power plants utilize its captive coal production and transportation system, which enhance security of supplies and help efficiency at the group level. Pairing of a domestic RUB-based revenue energy business with USD-based commodity exporting aluminium business provides for a natural FX hedging.

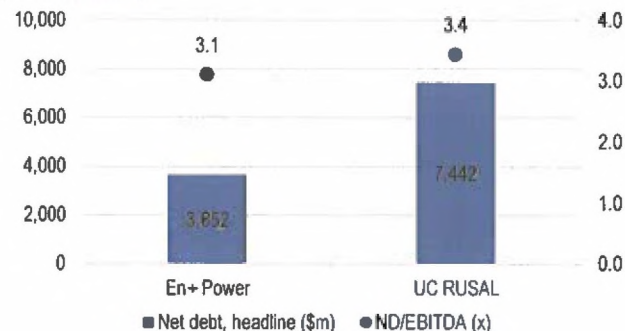
In 2018 RUSAL accounted for ~66% of En+ Group's adjusted EBITDA on 100% basis and for ~48% on attributable basis. A 50.1% stake in RUSAL is worth ~\$2.8bn at current spot or ~63% of En+ current market cap.

Figure 2: En+ Group adjusted EBITDA & FCF (\$m) in 2018 (on 100% basis)



Source: J.P. Morgan estimates, Company data. Note: FCF incl. dividends from associates.

Figure 3: En+ Group leverage by segment as of Dec'18 (on 100% basis)



Source: J.P. Morgan estimates, Company data.

Figure 4: Integrated nature of power and aluminium assets of En+ Group



Source: En+ Group, UC RUSAL.

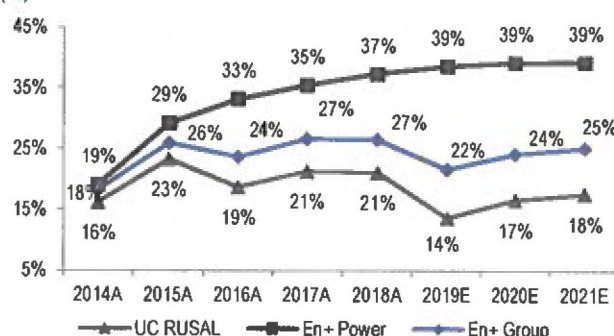
En+ Group - Key financial forecasts

Figure 5: En+ Group adj. EBITDA by segment on 100% basis (US\$m)



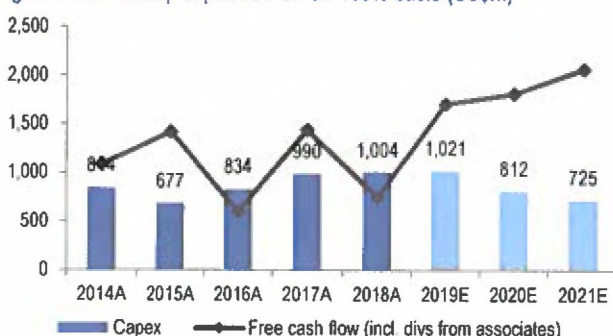
Source: En+ Group, J.P. Morgan estimates.

Figure 6: En+ Group adj. EBITDA margin by segment on 100% basis (%)



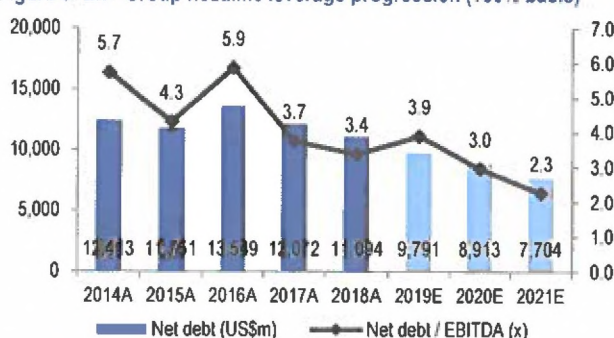
Source: En+ Group, J.P. Morgan estimates.

Figure 7: En+ Group capex vs FCF on 100% basis (US\$m)



Source: En+ Group, J.P. Morgan estimates. Note: FCF incl. dividends from associates.

Figure 8: En+ Group headline leverage progression (100% basis)



Source: J.P. Morgan estimates, Company data.

En+ Group – Q1'19 results review

Table 1: En+ Group Q1'19 results review

| | | Q1'19 | Q1'18 | YoY % | Q4'18 | QoQ % | 2018 | 2017 | YoY % |
|--------------------------------|-----|--------|--------|-------|--------|-------|--------|--------|-------|
| Operations | | | | | | | | | |
| Aluminium production | kt | 930 | 933 | 0% | 943 | -1% | 3,755 | 3,728 | 1% |
| Aluminium sales | kt | 896 | 965 | -7% | 877 | 2% | 3,671 | 3,955 | -7% |
| Share of VAP in the mix | % | 29% | 48% | -19% | 38% | -9% | 45% | 47% | -2% |
| Electricity production (total) | TWh | 19 | 18 | 10% | 20 | -3% | 73 | 68 | 7% |
| Electricity sales | TWh | 24 | 23 | 5% | 23 | 7% | 91 | 85 | 8% |
| Financials (100% basis) | | | | | | | | | |
| Revenue, incl. | \$m | 2,781 | 3,438 | -19% | 2,944 | -6% | 12,378 | 12,094 | 2% |
| En+ Energy | \$m | 874 | 998 | -12% | 832 | 5% | 3,147 | 3,235 | -3% |
| UC RUSAL | \$m | 2,170 | 2,744 | -21% | 2,365 | -8% | 10,280 | 9,969 | 3% |
| EBITDA adjusted, incl. | \$m | 579 | 929 | -38% | 669 | -13% | 3,287 | 3,223 | 2% |
| En+ Energy | \$m | 369 | 368 | 0% | 311 | 19% | 1,174 | 1,147 | 2% |
| UC RUSAL | \$m | 226 | 572 | -60% | 363 | -38% | 2,163 | 2,120 | 2% |
| FCF adjusted, incl. | \$m | 232 | -52 | -546% | 387 | -40% | 752 | 1,440 | -48% |
| En+ Energy | \$m | 184 | 188 | -2% | 201 | -8% | 477 | 295 | 62% |
| UC RUSAL | \$m | 13 | -221 | -106% | 68 | -81% | 294 | 1,181 | -75% |
| Net debt | \$m | 11,276 | 12,253 | -8% | 11,094 | 2% | 11,094 | 12,072 | -8% |
| ND/EBITDA adjusted | x | 3.8 | 3.6 | 6% | 3.4 | 14% | 3.4 | 3.7 | -10% |

Source: J.P. Morgan estimates, Company data. Note: JPM's definition of FCF. RUSAL's FCF includes dividends from Norilsk.

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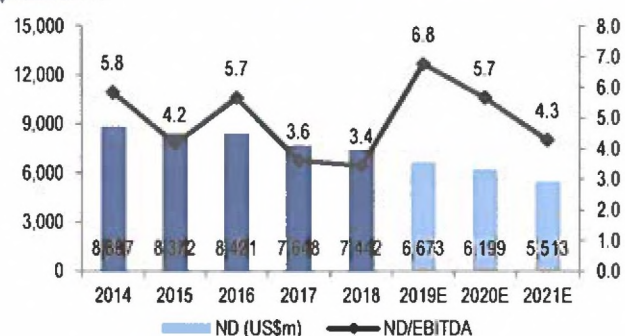
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Forecast re-rating of RUSAL's shares (~63% of En+ current market cap) to drive upside for En+ Group

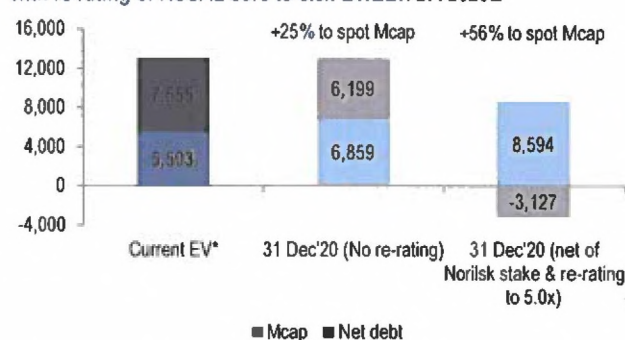
In our accompanying note ([link](#)), we have resumed coverage of RUSAL with an OW rating and a Dec'20 PT of HK\$6.8/sh, which implies a \$13.2bn value for 100% equity or ~\$6.6bn for the 50.1% stake currently owned by En+ Group, ~140% above its current market worth (~\$2.8bn). At JPM base case commodity prices and FX, RUSAL's EBITDA should increase from Q1'19 trough as business operations normalize and impact of US sanctions wears off, which in turn should drive FCF expansion and result in deleveraging to 2.3x ND/EBITDA by 2021 from 3.4x in 2018. The ongoing reduction of leverage and credit risks should in turn be a catalyst for RUSAL's shares re-rating. Given that RUSAL's stake currently accounts for ~63% of En+ Group's market cap, forecast valuation upside in RUSAL shares is a material factor behind expected uplift of En+ shares' value.

Figure 9: RUSAL net debt (cash) & ND/EBITDA at SPOT commodity prices & FX



Source: UC RUSAL, J.P. Morgan estimates. Note: Priced as of midday 7th Jun'19.

Figure 10: RUSAL Enterprise Value transfer of value 1) RUSAL equity rating unchanged at spot 2.2x; and 2) ND net of \$9.3bn Norilsk stake with re-rating of RUSAL core to 5.0x EV/EBITDA 2020E



Source: J.P. Morgan estimates. * Note: Based on RUSAL Mcap as of midday 7th Jun'19 and ND as of 31st Mar'19.

The completion of the deal with Glencore's subsidiary Amokenga Holdings for the conversion of Glencore's 8.75% holding in RUSAL into GDRs of En+ Group is expected over the next 12 months. On 1st Feb'19 En+ Group announced completing the first stage of securities exchange with Glencore, whereby Glencore has transferred 1.97% of RUSAL's shares to En+ in exchange for receiving a 10.55% stake in En+ Group. The remaining 6.78% RUSAL shares is expected to be automatically transferred to En+ no later than in Feb'20. As a result, En+ Group holding in RUSAL would increase from current 50.1% to 56.9%, which on our estimates would bring a ~1pps increase in the group's annual dividend yield.

SOTP-based Dec'20 PT of \$14.9/GDR implies \$9.5bn En+ Group equity value, ~120% potential upside

We value En+'s stake in RUSAL at JPM Dec'20 PT of HK\$6.8/sh, which implies \$13.2bn value for 100% of RUSAL's equity ([link](#) to note) and thus a \$6.6bn value for current holding of 50.1%. Our blended 50/50% DCF and DDM approach to value En+ Power segment yields a \$2.9bn value for the segment. As a result, at JPM base-case commodity prices and macroeconomic assumptions, we derive equity value for En+ of US\$14.9/GDR, equivalent to \$9.5bn or ~120% potential upside to the current \$4.4bn market cap.

Table 2: En+ Group SOTP valuation under JPM base case scenario

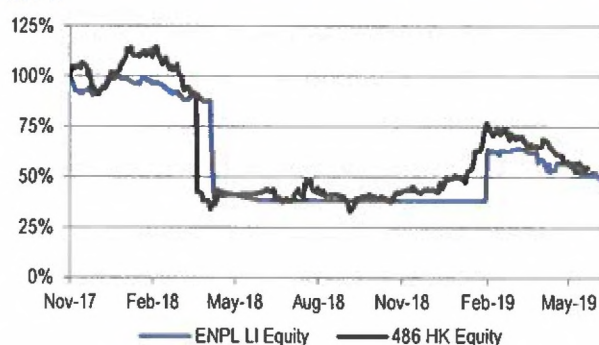
| | | POWER segment | UC RUSAL |
|----------------------------------|----------|---------------|----------|
| DCF valuation | | | |
| YE'20E NPV | US\$m | 3,313 | 16,523 |
| P/NPV multiple | x | 1.0x | 0.9x |
| Equity value | US\$m | 3,313 | 14,870 |
| DDM valuation | | | |
| YE'20E NPV | US\$m | 2,491 | - |
| EV/EBITDA valuation | | | |
| EBITDA 20E | US\$m | - | 1,711 |
| EV/EBITDA multiple | x | - | 3.5x |
| Equity value | US\$m | - | 11,545 |
| Blended valuation (50%/50%) | | | |
| Equity value for 100% stake | US\$m | 2,902 | 13,208 |
| Attributable share for En+ Group | % | 100% | 50.1% |
| Group equity value | US\$m | 9,519 | |
| Group equity value | US\$/GDR | 14.90 | |
| Upside/(downside) potential | | 118% | |

Source: J.P. Morgan estimates. Note: Priced as of midday 7th Jun'19.

The negative effect from US sanctions has resulted in a material de-rating of both RUSAL and En+ shares over 2018. Since its IPO in Nov'17, En+ shares fell by ~51% from \$14.0/GDR (IPO price) to current <\$7.0/GDR, generally in line with RUSAL, whose shares lost ~40% over the same period. As a result, we estimate En+ shares currently trade on 2020E 5.7x EV/EBITDA, 29% FCF yield and ~14% dividend yield on attributable basis, which does not look overly expensive vs main peers.

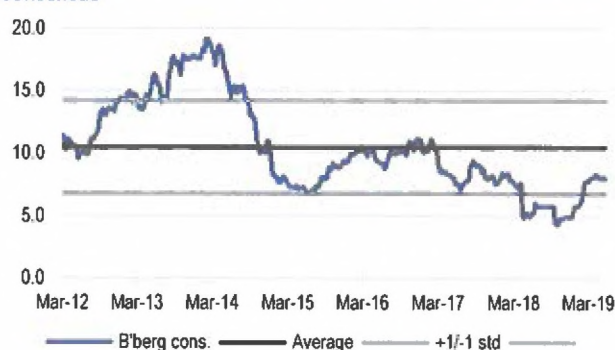
Our SOTP valuation provides a Dec'20 PT of US\$14.9/GDR, equivalent to ~120% potential upside to the current share price. We resume coverage with an Overweight rating on the name. Our fundamentally positive view on RUSAL (OW, PT HK\$6.8/sh) is a main driver behind a robust outlook for En+ value growth, especially in light of an expected increase of the group's holding in RUSAL from current ~50% to ~57% (final transfer of ~6.8% shares from Glencore to En+ is expected no later than by Feb'20). With ~6-7x EV/EBITDA 2019/20E and attractive dividend yields approaching ~15% pa, we see En+ as not overly expensive vs main peers.

Figure 11: En+ Group and RUSAL share price performance since 2nd Nov'17



Source: J.P. Morgan estimates, Bloomberg.

Figure 12: UC RUSAL +1Y headline EV/EBITDA based on Bloomberg consensus



Source: J.P. Morgan estimates, Company data.

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10 June 2019

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Table 3: Diversified & base metal mining peers – comparative valuation metrics at JPM base case commodity price & FX assumptions

| Company | MCap (US\$m) | PER (x) | | | EV/EBITDA (x) | | | FCF yield (%) | | | Dividend yield (%) | | | ND/EBITDA (x) | | |
|-------------------------|-----------------|---------|-------|-------|---------------|------|------|---------------|------|------|--------------------|------|------|---------------|-------|-------|
| | | 19E | 20E | 21E | 19E | 20E | 21E | 19E | 20E | 21E | 19E | 20E | 21E | 19E | 20E | 21E |
| En+ Group (attr.) | 4,357 | 6.1x | 5.0x | 4.3x | 6.8x | 5.7x | 4.9x | 27% | 29% | 33% | 7% | 14% | 16% | 3.5x | 2.9x | 2.2x |
| En+ Group (100%) | 7,103 | 5.9x | 3.8x | 4.3x | 8.1x | 8.5x | 5.5x | 24% | 28% | 29% | 4% | 9% | 10% | 3.9x | 3.0x | 2.3x |
| RUSAL | 5,503 | 4.2x | 4.1x | 3.8x | 9.2x | 6.5x | 5.1x | 10% | 4% | 10% | 2% | 8% | 8% | 5.0x | 3.3x | 2.3x |
| RUSAL (net of Norilsk)* | 5,503 | -88.5x | 14.7x | 8.6x | 2.1x | 1.1x | 0.4x | 10% | 4% | 10% | 2% | 8% | 8% | -2.1x | -2.2x | -2.4x |
| Peer group | | | | | | | | | | | | | | | | |
| Norilsk | 33,390 | 7.6x | 9.9x | 12.2x | 5.6x | 7.1x | 8.3x | 8% | 5% | 3% | 13% | 11% | 6% | 0.9x | 1.5x | 2.1x |
| Norsk Hydro | 7,512 | 19.2x | 7.6x | 6.5x | 6.9x | 4.1x | 3.4x | 4% | 10% | 15% | 2% | 6% | 6% | 1.8x | 0.9x | 0.5x |
| BHP Billiton | 125,885 | 8.8x | 10.4x | 11.8x | 5.1x | 5.7x | 6.0x | 9% | 8% | 8% | 8% | 7% | 6% | 0.3x | 0.3x | 0.2x |
| Rio Tinto | 97,989 | 8.1x | 9.8x | 11.3x | 4.4x | 5.0x | 5.3x | 12% | 8% | 8% | 9% | 7% | 6% | 0.0x | 0.0x | 0.0x |
| Glencore | 45,482 | 9.2x | 8.1x | 8.3x | 4.9x | 4.5x | 4.4x | 12% | 13% | 16% | 6% | 6% | 7% | 0.8x | 0.6x | 0.3x |
| Anglo American | 31,836 | 9.1x | 10.6x | 13.0x | 4.0x | 4.6x | 5.3x | 9% | 3% | 3% | 4% | 4% | 3% | 0.3x | 0.5x | 0.6x |
| Average: | | 10.3x | 9.4x | 10.5x | 5.2x | 5.2x | 5.4x | 9.0% | 7.5% | 8.7% | 7.1% | 6.7% | 5.9% | 0.7x | 0.6x | 0.6x |

Source: Bloomberg J.P. Morgan estimates Note: Priced as of midday 7th Jun'19 * Market value of 27.8% Norilsk stake of \$9.3bn

Table 4: Comparable companies: global utilities/power gencos trading multiples (Bloomberg consensus, prices as of midday 7th Jun'19)

| Company | MCap (US\$m) | PER (x) | | | EV/EBITDA (x) | | | FCF yield (%) | | | Dividend yield (%) | | | ND/EBITDA (x) | | |
|---------------|-----------------|---------|-------|-------|---------------|-------|-------|---------------|-----|-----|--------------------|-----|-----|---------------|------|------|
| | | 19E | 20E | 21E | 19E | 20E | 21E | 19E | 20E | 21E | 19E | 20E | 21E | 19E | 20E | 21E |
| En+ Power* | 1,800 | 4.1x | 2.8x | 2.3x | 4.2x | 4.0x | 3.5x | 40% | 31% | 36% | 16% | 23% | 27% | 2.6x | 2.5x | 2.2x |
| Peer group | | | | | | | | | | | | | | | | |
| China Yangtze | 55,782 | 17.3x | 16.9x | 16.5x | 11.3x | 11.0x | 10.5x | 10% | 8% | 9% | 4% | 4% | 4% | 2.3x | 2.0x | 1.7x |
| Eletrobras | 12,631 | 7.1x | 6.7x | 7.6x | 6.2x | 5.6x | 5.5x | na | na | na | 3% | 4% | 3% | 2.9x | 2.4x | 2.2x |
| RustHydro | 3,689 | 6.9x | 4.6x | 3.9x | 4.0x | 3.4x | 3.0x | 2% | 12% | 14% | 7% | 10% | 12% | 1.4x | 1.1x | 0.9x |
| Enel | 67,141 | 12.6x | 11.5x | 10.9x | 6.9x | 6.6x | 6.3x | 5% | 7% | 11% | 6% | 6% | 6% | 2.5x | 2.4x | 2.3x |
| SDIC Power | 7,670 | 11.7x | 11.2x | 10.4x | 9.7x | 9.5x | 8.9x | 17% | 17% | 18% | 3% | 3% | 3% | 5.6x | 5.5x | 5.2x |
| Verbund | 18,084 | 29.8x | 22.6x | 21.2x | 15.9x | 12.9x | 11.8x | 3% | 3% | 4% | 1% | 2% | 2% | 1.8x | 1.3x | 0.9x |
| EDP | 14,084 | 15.5x | 14.3x | 13.6x | 8.7x | 7.9x | 7.9x | 8% | 10% | 7% | 6% | 6% | 6% | 4.0x | 3.5x | 3.6x |
| Engie Brasil | 9,690 | 15.5x | 13.9x | 11.5x | 9.0x | 8.3x | 7.4x | 1% | 3% | 10% | 7% | 7% | 9% | 1.8x | 1.8x | 1.8x |
| Average: | | 14.5x | 12.7x | 11.9x | 9.0x | 8.2x | 7.7x | 6% | 9% | 10% | 5% | 5% | 6% | 2.8x | 2.5x | 2.3x |

Source: Bloomberg * Based on JPM base case forecasts * En+ Power implied Mcap calculated as En+ Group Mcap minus market value of current 50.1% of UC RUSAL as of midday 7th Jun'19

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Table 5: Diversified & base metal mining peers – comparative valuation metrics at JPM commodity price & FX assumptions

| Company | MCap (US\$m) | PER (x) | | | EV/EBITDA (x) | | | FCF yield (%) | | | Dividend yield (%) | | | ND/EBITDA (x) | | |
|-------------------------------|-----------------|---------|-------|-------|---------------|-------|-------|---------------|-------|-------|--------------------|-------|-------|---------------|-------|-------|
| | | 2019E | 2020E | 2021E | 2019E | 2020E | 2021E | 2019E | 2020E | 2021E | 2019E | 2020E | 2021E | 2019E | 2020E | 2021E |
| RUSAL | 5,503 | 4.2x | 4.1x | 3.8x | 9.2x | 6.5x | 5.1x | 10% | 4% | 10% | 2% | 8% | 8% | 5.0x | 3.3x | 2.3x |
| RUSAL (net of Norilsk stake)* | 5,503 | -8.5x | 14.7x | 8.6x | 2.1x | 1.1x | 0.4x | 10% | 4% | 10% | 2% | 8% | 8% | -2.1x | -2.2x | -2.4x |
| Diversified miners | | | | | | | | | | | | | | | | |
| BHP Billiton | 125,885 | 8.8x | 10.4x | 11.8x | 5.1x | 5.7x | 6.0x | 9% | 8% | 8% | 8% | 7% | 6% | 0.3x | 0.3x | 0.2x |
| Rio Tinto | 97,989 | 8.1x | 9.8x | 11.3x | 4.4x | 5.0x | 5.3x | 12% | 8% | 8% | 9% | 7% | 6% | 0.0x | 0.0x | 0.0x |
| Glencore | 45,482 | 9.2x | 8.1x | 8.3x | 4.9x | 4.5x | 4.4x | 12% | 13% | 16% | 6% | 6% | 7% | 0.8x | 0.6x | 0.3x |
| Anglo American | 31,836 | 9.1x | 10.6x | 13.0x | 4.0x | 4.6x | 5.3x | 9% | 3% | 3% | 4% | 4% | 3% | 0.3x | 0.5x | 0.6x |
| Norilsk | 33,390 | 7.8x | 9.9x | 12.2x | 5.6x | 7.1x | 8.3x | 8% | 5% | 3% | 13% | 11% | 6% | 0.9x | 1.5x | 2.1x |
| Average | | 8.5x | 9.8x | 11.3x | 4.8x | 5.4x | 5.8x | 10% | 7% | 7% | 8% | 7% | 6% | 0.5x | 0.6x | 0.6x |
| Aluminium producers | | | | | | | | | | | | | | | | |
| Norsk Hydro | 7,512 | 19.2x | 7.6x | 6.5x | 6.9x | 4.1x | 3.4x | 4% | 10% | 15% | 2% | 6% | 6% | 1.8x | 0.9x | 0.5x |
| Chalco | 8,586 | 28.6x | 22.9x | 19.7x | 10.6x | 10.1x | 9.7x | 17% | 18% | 18% | 0% | 0% | 0% | 5.3x | 4.9x | 4.6x |
| Alcoa | 4,002 | 50.9x | 12.7x | N/A | 3.6x | 3.2x | N/A | 10% | 21% | N/A | 0% | 0% | N/A | 0.4x | 0.2x | N/A |
| Century Aluminum | 495 | n.m. | 8.1x | N/A | n.m. | 4.9x | N/A | -1% | 27% | N/A | 0% | 0% | N/A | n.m. | 0.8x | N/A |
| Average | | 32.9x | 12.8x | 13.1x | 7.0x | 5.6x | 6.6x | 8% | 19% | 16% | 1% | 1% | 3% | 2.5x | 1.7x | 2.5x |

Source: Bloomberg, J.P. Morgan estimates. Note: Priced as of midday 7th Jun 19. * Market value of Norilsk stake of \$9.3bn

Table 6: Diversified and base metals peers – comparative valuation metrics at SPOT commodity prices & spot FX

| Company | MCap (US\$m) | PER (x) | | | EV/EBITDA (x) | | | FCF yield (%) | | | Dividend yield (%) | | | ND/EBITDA (x) | | |
|-------------------------------|-----------------|---------|--------|-------|---------------|-------|-------|---------------|-------|-------|--------------------|-------|-------|---------------|-------|-------|
| | | 2019E | 2020E | 2021E | 2019E | 2020E | 2021E | 2019E | 2020E | 2021E | 2019E | 2020E | 2021E | 2019E | 2020E | 2021E |
| RUSAL | 5,503 | 5.6x | 6.7x | 6.1x | 12.3x | 10.7x | 8.5x | 7% | -4% | 2% | 1% | 6% | 6% | 6.8x | 5.7x | 4.3x |
| RUSAL (net of Norilsk stake)* | 5,503 | -18.5x | -43.4x | 81.6x | 2.9x | 2.2x | 1.3x | 7% | -4% | 2% | 1% | 6% | 6% | -2.7x | -2.9x | -3.0x |
| Diversified miners | | | | | | | | | | | | | | | | |
| BHP Billiton | 125,885 | 8.6x | 8.3x | 8.1x | 5.1x | 4.8x | 4.5x | 9% | 11% | 12% | 8% | 8% | 9% | 0.3x | 0.1x | 0.0x |
| Rio Tinto | 97,989 | 7.6x | 7.0x | 7.0x | 4.2x | 3.7x | 3.6x | 13% | 12% | 13% | 9% | 10% | 10% | 0.0x | -0.1x | -0.2x |
| Glencore | 45,482 | 14.8x | 14.5x | 13.1x | 5.8x | 5.7x | 5.5x | 10% | 8% | 11% | 6% | 6% | 6% | 1.1x | 1.0x | 0.8x |
| Anglo American | 31,836 | 8.9x | 8.4x | 8.0x | 3.9x | 3.8x | 3.7x | 9% | 6% | 9% | 5% | 5% | 5% | 0.3x | 0.3x | 0.2x |
| Norilsk | 33,390 | 8.7x | 10.3x | 11.9x | 6.3x | 7.3x | 8.2x | 6% | 5% | 3% | 11% | 11% | 7% | 1.1x | 1.6x | 2.1x |
| Average | | 9.7x | 9.7x | 9.6x | 5.1x | 5.1x | 5.1x | 10% | 8% | 10% | 8% | 8% | 7% | 0.5x | 0.6x | 0.6x |
| Aluminium producers | | | | | | | | | | | | | | | | |
| Norsk Hydro | 7,512 | 23.4x | 7.9x | 6.3x | 7.5x | 4.1x | 3.3x | 4% | 10% | 16% | 2% | 5% | 6% | 1.9x | 0.9x | 0.4x |
| Chalco | 8,586 | 35.0x | 23.6x | 19.3x | 11.4x | 10.2x | 9.3x | 15% | 18% | 20% | 0% | 0% | 0% | 5.8x | 4.9x | 3.8x |
| Alcoa | 4,002 | 62.3x | 13.1x | N/A | 3.9x | 3.2x | N/A | 8% | 22% | N/A | 0% | 0% | 0% | 0.5x | 0.2x | N/A |
| Century Aluminum | 495 | n.m. | 8.4x | N/A | n.m. | 4.9x | N/A | -1% | 28% | N/A | 0% | 0% | 0% | n.m. | 0.8x | N/A |
| Average | | 40.2x | 13.2x | 12.8x | 7.6x | 5.6x | 6.3x | 7% | 20% | 18% | 0% | 1% | 2% | 2.7x | 1.7x | 2.1x |

Source: Bloomberg, J.P. Morgan estimates. Note: Priced as of midday 7th Jun 19. * Market value of Norilsk stake of \$9.3bn

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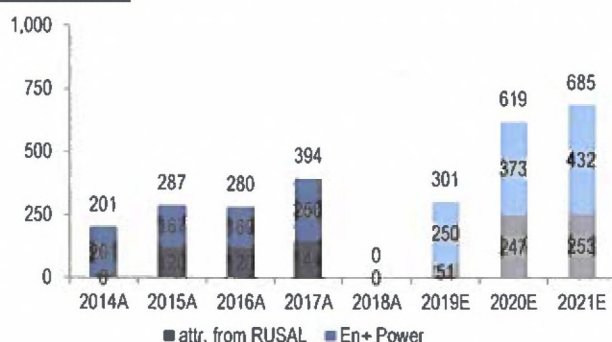
Dividend policy could be key reason for outperformance

Potential resumption of dividend payments could be a next positive catalyst

As we highlighted in our Dec'17 initiation report ([link](#)), En+ management has expressed a commitment to distribute cash to shareholders. To recap, the dividend policy envisages a 100% pass-through of dividends received from UC RUSAL and payment of 75% of FCF generated by En+ Energy segment subject to a minimum annual floor of \$250m.

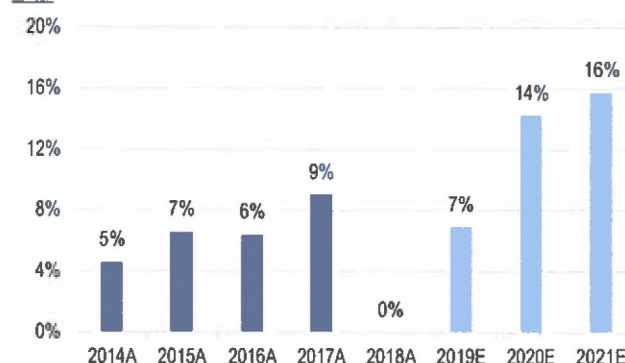
En+ declared dividends for 2017 totaled \$394m, ~9% yield. As 2018's financial performance was negatively impacted by US sanctions, both En+ and RUSAL declared no dividends for 2018. As we forecast RUSAL's and Power segments' financial position to improve into H2'19, we see an increasing likelihood of both companies resuming distributions to shareholders. In our base case scenario, we assume a resumption of dividend payments by both companies in Q4'19 (with En+ Power segment paying out a minimum \$250m for 2019). We thus forecast En+ to declare a total \$301m dividend in 2019 (~7% yield), which should rise to ~\$600-700m or ~14-16% yield in 2020-21.

Figure 13: Dividends declared to shareholders of En+ Group (\$ mn) – JPM base case



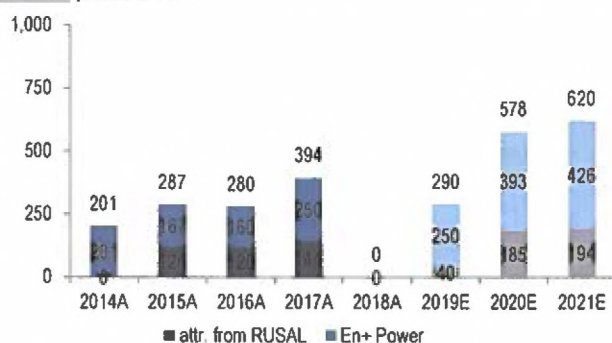
Source: J.P. Morgan estimates, Company data.

Figure 14: En+ Group declared dividend yields (%) – under JPM base case



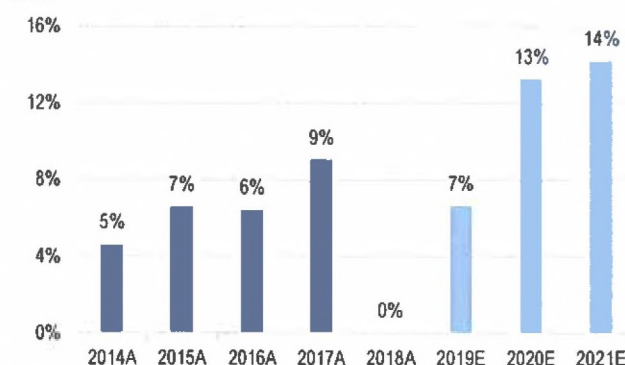
Source: J.P. Morgan estimates, Company data. Note: Priced as of midday 7th Jun'19.

Figure 15: Dividends declared to shareholders of En+ Group (\$ mn) – at SPOT prices & FX



Source: J.P. Morgan estimates, Company data.

Figure 16: En+ Group declared dividend yields (%) – at SPOT prices & FX



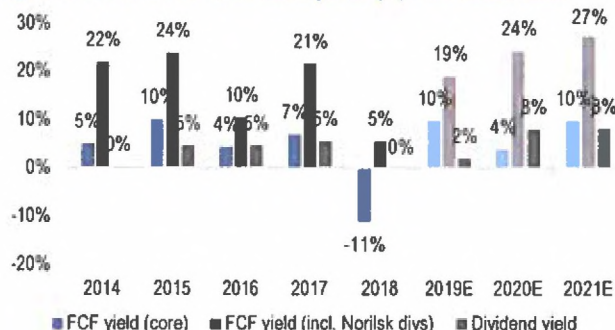
Source: J.P. Morgan estimates, Company data. Note: Priced as of midday 7th Jun'19.

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Figure 17: RUSAL FCF vs dividend yields (%) – JPM base case



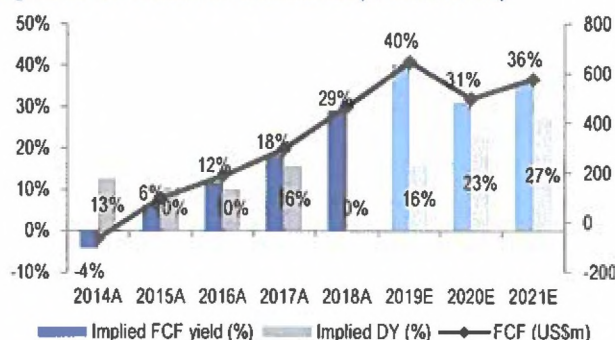
Source: J.P. Morgan estimates, Company data. Note: Declared dividend yield.

Figure 18: RUSAL leverage progression (JPM base case)



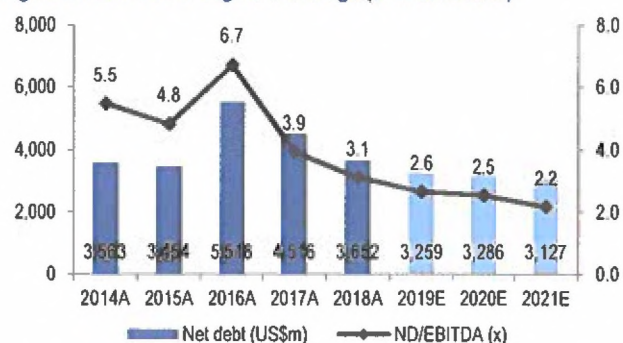
Source: J.P. Morgan estimates, Company data.

Figure 19: En+ Power FCF vs dividends (JPM base case)



Source: En+ Group, J.P. Morgan estimates. Note: Yields based on implied market cap of Power Segment, calculated as En+ Group Mcap minus market value of 50.1% of UC RUSAL as of midday 7th Jun'19.

Figure 20: En+ Power segment leverage (JPM base case)



Source: En+ Group, J.P. Morgan estimates.

Corporate governance transformation complete: new shareholding and Board structures in place

Over the past 18 months En+ has undergone a significant corporate transformation on the back of the successful execution of the “Barker Plan” – an action plan prepared and implemented under the leadership of Executive Chairman Lord Barker to facilitate the removal of US OFAC sanctions on company. Key parameters of the “Barker Plan” included: 1) restructuring of En+ ownership structure and governance (including the change of En+ & RUSAL’s Boards to consist of majority of independent directors), 2) ongoing commitment to transparency and regulatory auditing, and 3) Glencore’s exchange of 8.75% interest in RUSAL for 10.55% stake in En+.

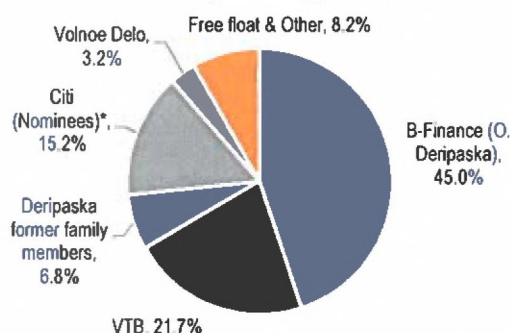
As a result of the changes made, major shareholder Oleg Deripska has been effectively removed from operational control of En+ with his ownership stake falling from Dec’17 of 66% (post-IPO) to current 45% of holding and 35% of voting rights. **Thus, currently ~2/3rds of the votes are independent of the former majority shareholder.**

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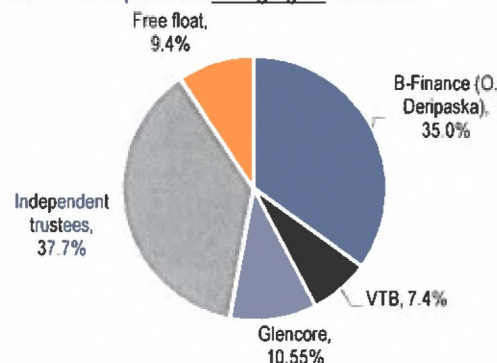
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Figure 21: En+ Group current shareholder structure



Source: Company reports. * Includes 10.55% stake – GDRs issued as a part of Glencore swap transaction.

Figure 22: En+ Group current voting rights structure



Source: Company reports.

Lord Greg Barker, a former UK Member of Parliament and UK Minister of State for Energy & Climate Change, continues to be Chairman of the Board (in capacity of executive Chairman since Feb'19), but its composition has been completely changed from its immediate post-IPO state. Over Jan'18-Jan'19, several members have resigned and in Jan'19, as a condition to company's removal from OFAC's SDN list, 7 new independent directors were appointed, bringing the share of directors independent of Mr. Deripaska to 2/3rds of the Board (i.e. 8 out of current 12 members). According to new corporate arrangements, Mr. Deripaska can nominate no more than 4 out of 12 directors to En+ Group's Board.

In line with changes to the Board, a new management team for En+ Group has also been put in place over the course of 2018 – Vladimir Kiriukhin replaced Vyacheslav Solomin as CEO and Mikhail Khardikov replaced Andrey Yashchenko as CFO.

Table 7: En+ Group Senior Management Team overview (as of Jun'19)

| En+ Group | | UC RUSAL | |
|--|--|--|--|
| Name | Experience | Name | Experience |
| Vladimir Kiriukhin, Chief Executive Officer | Appointed in Nov'18. Served as CEO of En+ Development since 2009, held senior positions at EuroSibEnerg in 2001-08. Also serves as Board Chairman of Irkutskenergo | Evgenii Nikitin Chief Executive Officer | Appointed in Nov'18. Has held various positions within the company and its subsidiaries since joining the Group in 1993. |
| Mikhail Khardikov, Chief Financial Officer | Held various senior positions at EuroSibEnerg in 2010-18 | Alexandra Bouriko, Chief Financial Officer | More than 15Y of professional experience in En+ Group, former Deputy CEO of En+ and BoD member in Rusal |
| Vyacheslav Solomin, Chief Operating Officer | Held various senior positions at EuroSibEnerg in 2007-14, before that – at TERRAO UES & SIBUR | Roman Andryushin, Deputy CEO, Sales & Marketing | Appointed in May'18. Has held various positions within RUSAL since 2003. |

Source: UC RUSAL, En+ Group

Table 8: En+ Group Board of Directors overview (as of Jun'19)

| Name | Title | Experience |
|----------------------------------|-----------------------------|--|
| Lord Gregory Barker | Executive Chairman | Appointed Executive Chairman in Feb'19, was Independent Chairman since Oct'17. Formerly a member of the British House of Commons (2001-15), served as UK Minister of State for Energy & Climate Change (2010-14) |
| Hon Christopher Bancroft Burnham | Senior Independent Director | Member of the Board since 2019. Currently is Chairman & CEO of Cambridge Global Capital LLC. Previous roles include various senior positions within US Department of State and Deutsche Bank. |
| Carl Hughes | Independent Director | Member of the Board since 2019. Currently serves on the Board of EnQuest Plc, Director & Trustee of Premier Christian Media Trust and Lambeth Conference Company. Previous roles include >30 years of experience within audit practices of Deloitte and Andersen. |
| Joan MacNaughton CB Hon FEI | Independent Director | Member of the Board since 2019. Currently serves as Chair of The Climate Group and of the Advisory Board of the New Energy Coalition of Europe, sits on Strategic Advisory Board of Engie UK, is a Non-Executive Director of James Hutton Institute and of Energy Savings Trust. In 2010-16 was Executive Chair of the annual assessment of countries' energy policies for the World Energy Council and is now Honorary Chair. |
| Nicholas Jordan | Independent Director | Member of the Board since 2019. Previous roles include senior positions in leading global financial institutions, including Goldman Sachs, Finstar Financial Group, UBS and others |
| Igor Lojevsky | Independent Director | Member of the Board since 2019. Previous positions include various roles at Deutsche Bank (2000-2014), Chairmanship and membership positions in Strategic, Audit and Remuneration & Nomination Committees of major companies in banking, mining, transportation and energy industries. |
| Alexander Chmel | Independent Director | Member of the Board since 2019. Currently is Senior Advisor to Board Practice of Spencer Stuart in Russia & CIS. Previous roles include senior management roles in PwC on various projects in energy, utilities and mining practice in Russia and Central & Eastern Europe. |
| Andrey Sharonov | Independent Director | Member of the Board since 2019. Currently is President of SKOLKOVO Business School; serves as Board Chairman of NefteTransService LLC, member of management Boards at Sofkomflot, PhosAgro, Medicina. |
| Vadim Geraskin | Non-Executive Director | Member of the Board of Directors since 2019. Since 2012 has been deputy CEO for GR at Basic Element, earlier has held various positions within RUSAL. |
| Ekaterina Tomilina | Non-Executive Director | Member of the Board of Directors since 2019. Currently the Director for Corporate Finance at Basic Element. |
| Elena Nesvetaeva | Non-Executive Director | Member of the Board of Directors since 2019. Currently heads the Investment Department at Basic Element where she has held several senior positions since she joined the company in 2009. |
| Anastasia Gorbatova | Non-Executive Director | Member of the Board of Directors since 2019. Currently heads the M&A and International Projects Department at Basic Element |

Source: En+ Group, UC RUSAL

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10 June 2019

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Investment Thesis, Valuation and Risks

En+ Group Plc (*Overweight; Price Target: \$14.90*)

Investment Thesis

Our Overweight recommendation on En+ Group reflects our view that: 1) we see significant valuation upside presented by current >50% stake owned in UC RUSAL, 2) under JPM base case commodity price & macro forecasts we forecast generous shareholder returns and a gradual improvement of group balance sheet health, 3) current valuation doesn't screen overly expensive vs peers and 4) recently completed corporate transformation has diminished associated governance risks, in our view.

Valuation

Our Dec'20 Price Target is based on a sum-of-the-parts valuation. We value the group's shareholding in UC RUSAL based on JPM PT and the Energy segment on a 50/50% blended DCF and DDM. We apply no conglomerate discount or premium to the resulting SOTP value.

Risks to Rating and Price Target

The key risks that we see include:

- Adverse or more favorable outcomes in electricity and metals prices (mainly aluminium), USD/RUB rate, water taxes and capex relative to our forecasts
- Volatility of water flows availability, including structural reductions or increases in water availability born of natural issues (Lake Baikal water levels) or human ones (diversion of water flows to alternative usage and/or infrastructure works)
- Changes in electricity & heat and capacity tariffs regulation and other legislative conditions in the Russian power utilities sector
- Significant adverse or more favorable changes in interest rates environment
- Shareholder & corporate governance risks stemming from the fact that Mr. Oleg Deripaska remains a major beneficial shareholder of both En+ Group and UC RUSAL
- Changes in the degree of Russia sovereign and geopolitical risks

En+ Group: Summary of Financials

| Income Statement - Annual | | | | | | Cash Flow Statement | | | | | |
|------------------------------|-----------|---------|---------|---------|---------|-------------------------------------|---------|---------|----------|---------|---------|
| | FY17A | FY18A | FY19E | FY20E | FY21E | | FY17A | FY18A | FY19E | FY20E | FY21E |
| Revenue | 12,094 | 12,378 | 11,655 | 12,448 | 13,552 | Cash flow from operating activities | 2,654 | 1,708 | 3,132 | 2,336 | 2,585 |
| COGS | (7,234) | (7,457) | (7,502) | (7,623) | (8,110) | o/w Depreciation & amortization | 736 | 752 | 771 | 869 | 891 |
| Gross profit | | | | | | o/w Changes in working capital | (300) | (1,372) | 1,187 | (80) | (157) |
| Exploration expense | | | | | | Cash flow from investing activities | (124) | (452) | (448) | 397 | 308 |
| SG&A | (1,529) | (1,509) | (1,452) | (1,611) | (1,824) | o/w Capital expenditure | (990) | (1,004) | (1,021) | (812) | (725) |
| Adj. EBITDA | 3,223 | 3,287 | 2,517 | 3,008 | 3,407 | as % of sales | 8.2% | 8.1% | 8.8% | 6.5% | 5.4% |
| D&A | (736) | (752) | (771) | (869) | (891) | Cash flow from financing activities | (2,232) | (960) | (2,277) | (2,757) | (3,211) |
| Adj. EBIT | 2,370 | 2,280 | 1,716 | 2,139 | 2,516 | o/w Dividends paid | (543) | (68) | 0 | (948) | (860) |
| Net Interest | (1,373) | (960) | (957) | (822) | (748) | o/w Net debt issued/(repaid) | (1,222) | (14) | (1,303) | (902) | (1,527) |
| Adj. PBT | 1,618 | 2,268 | 2,145 | 2,294 | 2,562 | Net change in cash | 301 | 226 | 456 | (24) | (318) |
| Tax | (215) | (406) | (466) | (592) | (664) | Adj. Free cash flow to firm | 1,440 | 752 | 1,717 | 1,826 | 2,068 |
| Minority Interest | (676) | (895) | (646) | (609) | (649) | y/y Growth | 140.8% | (47.8%) | 128.3% | 6.3% | 13.3% |
| Adj. Net Income | 727 | 967 | 1,032 | 1,093 | 1,248 | | | | | | |
| Reported EPS | 1.42 | 1.56 | 1.63 | 1.71 | 1.95 | | | | | | |
| Adj. EPS | 1.42 | 1.56 | 1.63 | 1.71 | 1.95 | | | | | | |
| DPS | 0.73 | 0.12 | 0.00 | 1.20 | 1.05 | | | | | | |
| Payout ratio | 51.3% | 7.6% | 0.0% | 70.0% | 53.6% | | | | | | |
| Shares outstanding | 510 | 620 | 634 | 639 | 639 | | | | | | |
| Balance Sheet | | | | | | Ratio Analysis | | | | | |
| | FY17A | FY18A | FY19E | FY20E | FY21E | | FY17A | FY18A | FY19E | FY20E | FY21E |
| Cash and cash equivalents | 957 | 1,183 | 1,639 | 1,615 | 1,297 | Gross margin | - | - | - | - | - |
| Accounts receivable | 1,309 | 1,389 | 955 | 1,017 | 1,147 | EBITDA margin | 26.6% | 28.6% | 21.6% | 24.2% | 25.1% |
| Inventories | 2,495 | 3,037 | 2,998 | 3,113 | 3,319 | EBIT margin | 19.6% | 18.4% | 14.7% | 17.2% | 18.6% |
| Other current assets | 72 | 220 | 213 | 213 | 213 | Net profit margin | 6.0% | 7.8% | 8.9% | 8.8% | 9.2% |
| Current assets | 4,833 | 5,829 | 5,805 | 5,959 | 5,975 | ROE | 60.8% | 41.6% | 31.1% | 25.0% | 24.6% |
| PP&E | 9,940 | 9,322 | 9,979 | 9,922 | 9,756 | ROA | 3.4% | 4.5% | 4.6% | 4.7% | 5.4% |
| LT investments | 0 | 0 | 0 | 0 | 0 | ROCE | 13.9% | 12.5% | 8.9% | 10.3% | 12.6% |
| Other non current assets | 7,047 | 6,131 | 7,421 | 7,275 | 7,113 | Net debt/equity | 2.8 | 2.1 | 1.3 | 1.1 | 0.8 |
| Total assets | 21,820 | 21,282 | 23,205 | 23,155 | 22,844 | Net debt/EBITDA | 3.7 | 3.4 | 3.9 | 3.0 | 2.3 |
| Short term borrowings | 2,067 | 2,270 | 2,457 | 2,317 | 2,077 | P/E (x) | 4.9 | 4.4 | 4.3 | 4.1 | 3.6 |
| Payables | 2,143 | 1,615 | 2,197 | 2,704 | 2,881 | P/BV (x) | 1.8 | 1.3 | 0.9 | 0.7 | 0.6 |
| Other short term liabilities | 92 | 78 | 68 | 68 | 68 | EV/EBITDA (x) | 5.8 | 5.5 | 7.0 | 5.6 | 4.7 |
| Current liabilities | 4,302 | 3,963 | 4,722 | 5,088 | 5,027 | EV/OpFCF (x) | - | - | - | - | - |
| Long-term debt | 10,962 | 10,007 | 8,973 | 8,211 | 6,924 | EV/Capital (x) | 1.3 | 1.2 | 1.2 | 1.1 | 1.1 |
| Other long term liabilities | 2,171 | 1,910 | 2,045 | 1,636 | 1,636 | Dividend Yield | 10.5% | 1.7% | 0.0% | 17.3% | 15.1% |
| Total liabilities | 17,435 | 15,880 | 15,740 | 14,936 | 13,586 | FCFF Yield | 40.7% | 17.5% | 39.0% | 41.2% | 46.6% |
| Shareholders' equity | 1,991 | 2,655 | 3,979 | 4,763 | 5,372 | Revenue y/y Growth | 23.7% | 2.3% | (5.8%) | 6.8% | 8.9% |
| Minority interests | 2,394 | 2,747 | 3,486 | 3,457 | 3,886 | EBITDA y/y Growth | 39.5% | 2.0% | (23.4%) | 19.5% | 13.3% |
| Total liabilities & equity | 21,820 | 21,282 | 23,205 | 23,155 | 22,844 | Adj. Net Income y/y Growth | 5.5% | 33.0% | 6.8% | 5.9% | 14.2% |
| BVPS | 3.91 | 5.17 | 8.15 | 9.27 | 10.89 | EPS y/y Growth | 3.4% | 9.5% | 4.4% | 5.1% | 14.2% |
| y/y Growth | (1700.6%) | 32.4% | 57.5% | 13.8% | 17.5% | DPS y/y Growth | 14.9% | (83.7%) | (100.0%) | - | (12.6%) |
| Net debt/(cash) | 12,072 | 11,094 | 9,791 | 8,913 | 7,704 | Tax rate | 13.3% | 17.9% | 21.7% | 25.8% | 25.9% |
| Operational Metrics | | | | | | | | | | | |
| | FY17A | FY18A | FY19E | FY20E | FY21E | | | | | | |
| Gold price (\$/oz) | - | - | - | - | - | | | | | | |
| Gold sales (koz) | - | - | - | - | - | | | | | | |
| Silver price (\$/oz) | - | - | - | - | - | | | | | | |
| Silver sales (koz) | - | - | - | - | - | | | | | | |
| Platinum price (\$/oz) | - | - | - | - | - | | | | | | |
| Platinum sales (koz) | - | - | - | - | - | | | | | | |

Source: Company reports and J.P. Morgan estimates.

Note: \$ in millions (except per-share data). Fiscal year ends Dec. o/w - out of which

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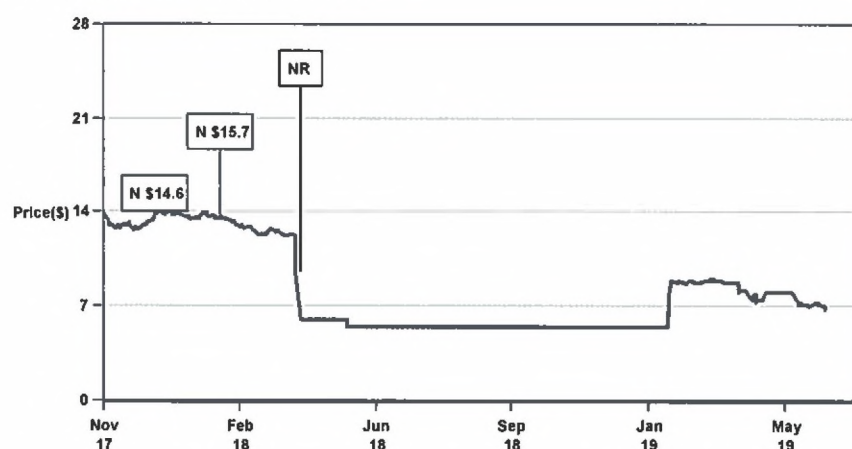
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En+ Group (ENPLq.L, ENPL.L) Price Chart



| Date | Rating | Share Price (\$) | Price Target (\$) |
|-----------|--------|------------------|-------------------|
| 14-Dec-17 | N | 13.50 | 14.60 |
| 05-Feb-18 | N | 13.50 | 15.70 |
| 10-Apr-18 | NR | 9.65 | -- |

Source: Bloomberg and J.P. Morgan; price data adjusted for stock splits and dividends.
Initiated coverage Dec. 14, 2017. All share prices are as of market close on the previous business day.

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En+ Group

Empowering minority shareholders, resuming coverage with Buy

Resuming Coverage: BUY | PO: 11.00 USD | Price: 8.95 USD

**Bank of America
Merrill Lynch**


Equity | 04 February 2019

Resuming coverage with a Buy, 37% upside potential

We resume coverage with Buy as we see upside post the US sanctions lifting. En+ navigated well through 10 months of restrictions and comes out of sanctions with a new structure, which empowers minority shareholders. We like 1) vertical integration from energy and raw materials to metals, 2) dividend policy returning Rusal's dividends and most of the FCF to shareholders, 3) last, but not least path to corporate governance improvement. On aluminium: Given Chinese production curtailments, aluminium is in deficit, which should ultimately support prices; we see scope for a rally as pent-up demand is released. Today, we also resume coverage of Rusal with Buy and PO HKD5.5.

Valuation attractive vs. power and aluminium companies

En+ is cheap on 4.6x 19E P/E and 3.2x 19E EV/EBITDA, yielding 10% in dividends for 2019E, a deep discount to European power (on 8.5x 19E EV/EBITDA) and aluminium (on 6.9x 19E EV/EBITDA) peers. Our US\$11.0 PO suggests attractive 37% potential upside.

Upside from corporate governance

OFAC sanctions easing came with conditions limiting voting rights of En+ controlling shareholder Oleg Deripaska: independent trustee will vote with 37.67% of En+'s votes owned by Deripaska and those deemed connected to him. Such a structure shifts the power to minority shareholders (i.e. Glencore, VTB and financial investors). We see this development as positive for En+ corporate governance.

World-scale vertically integrated aluminium producer

En+ is a vertically integrated aluminium company. It has c.20 GW power capacity, mainly hydro-generated, and owns 48.1% of Rusal, the 2nd aluminium producer, which enables monetization of the Hydro assets. The Legacy Siberian Hydro power assets are large-scale, long (infinite) life and cash generating. En+ is a "2nd derivative" for Norilsk Nickel, a large low-cost nickel and base metals producer via Rusal, which owns 27.8% of it.

Estimates (Dec)

| (USD) | 2016A | 2017A | 2018E | 2019E | 2020E |
|------------------------|--------|--------|-------|-------|-------|
| EPS (Reported Diluted) | 0.68 | 1.42 | 1.80 | 1.74 | 1.85 |
| EPS Change (YoY) | 450.7% | 108.2% | 26.6% | -3.7% | 6.7% |
| Dividend / Share | 1.11 | 0.53 | 0 | 0.79 | 1.09 |

Valuation (Dec)

| | 2016A | 2017A | 2018E | 2019E | 2020E |
|-----------------------|-------|-------|-------|-------|-------|
| P/E | 13.1x | 6.28x | 4.96x | 5.15x | 4.83x |
| Dividend Yield | 12.4% | 5.91% | 0% | 8.77% | 12.2% |
| EV / EBITDA* | 4.46x | 3.20x | 3.03x | 3.44x | 3.49x |
| Free Cash Flow Yield* | 12.7% | 34.4% | 18.6% | 25.3% | 28.0% |

* For full definitions of *IQmethod*™ measures, see page 48.

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Stock Data

| | |
|----------------------------|--------------------|
| Price | 8.95 USD |
| Price Objective | 11.00 USD |
| Date Established | 04-Feb-2019 |
| Investment Opinion | C-1-9 |
| 52-Week Range | 5.40 USD-13.90 USD |
| Mkt Val / Shares Out (mn) | 5,114 USD / 571.4 |
| Average Daily Value (mn) | 0.014 USD |
| Free Float | 18.0% |
| BoAML Ticker / Exchange | ENPL / LIN |
| Bloomberg / Reuters | ENPL LI / ENPLq.L |
| ROE (2018E) | 44.7% |
| Net Dbt to Eqty (Dec2017A) | 274.9% |

>> Employed by a non-US affiliate of MLPF&S and is not registered/qualified as a research analyst under the FINRA rules.

Refer to "Other Important Disclosures" for information on certain BofA Merrill Lynch entities that take responsibility for the information herein in particular jurisdictions.

BofA Merrill Lynch does and seeks to do business with issuers covered in its research reports.

As a result, investors should be aware that the firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

Refer to Important Disclosures on page 49 to 52. Analyst Certification on page 46. Price

Objective Based on page 45.

11959316

Timestamp: 03 February 2019 11:40AM EST

DISSEMINATED BY MERCURY, LLC, A REGISTERED FOREIGN AGENT, ON BEHALF OF THE RT. HON. LORD GREGORY BARKER. MORE INFORMATION IS ON FILE WITH THE U.S. DEPARTMENT OF JUSTICE, WASHINGTON, D.C.

| Key Income Statement Data (Dec) | 2016A | 2017A | 2018E | 2019E | 2020E |
|--|---------|---------|---------|---------|---------|
| (US\$ Millions) | | | | | |
| Sales | 9,776 | 12,094 | 12,532 | 12,809 | 12,913 |
| EBITDA Adjusted | 2,311 | 3,223 | 3,409 | 2,999 | 2,954 |
| Depreciation & Amortization | (641) | (736) | (730) | (738) | (738) |
| EBIT Adjusted | 1,670 | 2,487 | 2,679 | 2,261 | 2,215 |
| Net Interest & Other Income | (1,153) | (1,373) | (1,062) | (1,297) | (1,297) |
| Tax Expense / Benefit | (304) | (215) | (331) | (371) | (388) |
| Net Income (Adjusted) | 391 | 727 | 1,031 | 1,110 | 1,184 |
| Average Fully Diluted Shares Outstanding | 571 | 510 | 571 | 639 | 639 |
| Key Cash Flow Statement Data | | | | | |
| Net Income (Reported) | 391 | 727 | 1,031 | 1,110 | 1,184 |
| Depreciation & Amortization | 641 | 736 | 730 | 738 | 738 |
| Change in Working Capital | (202) | (300) | (1,247) | (12.8) | (30.6) |
| Deferred Taxation Charge | 0 | 0 | 0 | 0 | 0 |
| Other CFO | 1,120 | 1,491 | 1,336 | 630 | 494 |
| Cash Flow from Operations | 1,950 | 2,654 | 1,850 | 2,466 | 2,386 |
| Capital Expenditure | (834) | (970) | (898) | (1,020) | (935) |
| (Acquisition) / Disposal of Investments | 78.0 | 17.0 | (76.0) | 0 | 0 |
| Other CFI | 576 | 829 | 815 | 1,225 | 1,377 |
| Cash Flow from Investing | (180) | (124) | (158) | 205 | 442 |
| Share Issue / (Repurchase) | (827) | 759 | (105) | 0 | 0 |
| Cost of Dividends Paid | (448) | (528) | (68.0) | (502) | (696) |
| Increase (decrease) debt | 1,877 | (1,176) | (403) | (692) | (851) |
| Other CFF | (2,306) | (1,287) | (399) | (1,226) | (1,226) |
| Cash Flow from Financing | (1,704) | (2,232) | (975) | (2,420) | (2,773) |
| Total Cash Flow (CFO + CFI + CFF) | 66.0 | 298 | 717 | 251 | 55.0 |
| FX and other changes to cash | 12.0 | 7.00 | (47.0) | 0 | 0 |
| Change in Cash | 78.0 | 305 | 670 | 251 | 55.0 |
| Change in Net Debt | 1,799 | (1,481) | (1,073) | (943) | (906) |
| Net Debt | 13,536 | 12,055 | 10,982 | 10,039 | 9,133 |
| Key Balance Sheet Data | | | | | |
| Property, Plant & Equipment | 9,355 | 9,940 | 9,275 | 9,557 | 9,754 |
| Goodwill | 0 | 0 | 0 | 0 | 0 |
| Other Intangibles | 2,300 | 2,392 | 2,210 | 2,210 | 2,210 |
| Other Non-Current Assets | 4,496 | 4,655 | 3,835 | 4,197 | 4,402 |
| Trade Receivables | 1,401 | 1,279 | 1,426 | 1,404 | 1,415 |
| Cash & Equivalents | 669 | 974 | 1,644 | 1,895 | 1,950 |
| Other Current Assets | 2,109 | 2,580 | 2,350 | 2,415 | 2,439 |
| Total Assets | 20,330 | 21,820 | 20,740 | 21,678 | 22,171 |
| Long-Term Debt | 12,095 | 10,962 | 10,563 | 9,871 | 9,020 |
| Other Non-Current Liabilities | 2,192 | 2,171 | 1,954 | 1,954 | 1,954 |
| Short-Term Debt | 2,110 | 2,067 | 2,063 | 2,063 | 2,063 |
| Other Current Liabilities | 1,748 | 2,235 | 508 | 538 | 543 |
| Total Liabilities | 18,145 | 17,435 | 15,088 | 14,426 | 13,580 |
| Total Equity | 2,185 | 4,385 | 5,652 | 7,252 | 8,591 |
| Total Equity & Liabilities | 20,330 | 21,820 | 20,740 | 21,678 | 22,171 |
| Business Performance* | | | | | |
| Return On Capital Employed | 8.51% | 11.4% | 11.8% | 9.62% | 9.01% |
| Return On Equity | NM | 60.8% | 44.7% | 38.0% | 34.1% |
| Operating Margin | 17.1% | 19.6% | 19.3% | 17.7% | 17.2% |
| Free Cash Flow (MM) | 649 | 1,572 | 952 | 1,445 | 1,602 |
| Quality of Earnings* | | | | | |
| Cash Realization Ratio | 4.99x | 3.65x | 1.79x | 2.22x | 2.01x |
| Asset Replacement Ratio | 1.30x | 1.32x | 1.23x | 1.38x | 1.27x |
| Tax Rate | 22.2% | 13.3% | 13.8% | 15.0% | 16.0% |
| Net Debt/Equity | 619% | 275% | 194% | 138% | 106% |
| Interest Cover | 1.58x | 2.23x | 2.70x | 1.84x | 1.81x |

* For full definitions of iQmethod™ measures, see page 48.

Company Sector

Energy Commodities

Company Description

En+ Group is a vertically integrated power and aluminium company. It has 20GW power capacity, predominantly hydro-generated, and owns 48.1% of UC Rusal (as of end 2018), 2nd largest aluminium producer globally (3.7Mt in 2016). Oleg Deripaska is the largest shareholder in En+ with c45% stake, however his voting interest was reduced to 35% as per the agreement with US Treasury.

Investment Rationale

We rate En+ Group as Buy due to 1) high quality hydro power assets in Siberia, 2) monetisation of the power business via vertical integration with Rusal's aluminium production, 3) transparent dividend policy.

Stock Data

Price to Book Value 2.0x

Valuation: US\$7.1bn equity value

Our PO US\$11.0/GDR is derived using a sum-of-the parts (SOTP) approach. To arrive at our price objective, we use a SOTP valuation:

- We use our Rusal's target market cap of US\$11.0bn based on our valuation of HKD5.5 to value En+ Group's 56.88% stake in Rusal at US\$6.3bn. We apply 10% discount to Rusal stake fair value to account for the holding discount.
- We apply a target EV/EBITDA of 5.5x to average 2019-20E earnings of the power business within the En+ Energy segment. Our target multiple is derived at a c.30% discount to the average European Power companies' EV/EBITDA of 8.0x for the same period. The discount to account for Russian country risk and the complicated shareholder history and structure of En+.
- We apply a mid-cycle EV/EBITDA of 4.0x to the average 2019-20E earnings of the coal, logistics and other businesses within the En+ Energy segment.

Table 1: SOTP – US\$7.0bn equity value and US\$11.0/GDR PO

| US\$ mn | En+ stake | Value | Target multiple | US\$mn |
|--|---------------------------|-------|-----------------|---------------|
| Rusal Stake at market value | 56.9% | 3613 | Discount -20% | 2890 |
| Rusal stake at fair value | 56.88% | 6058 | Discount -10% | 5452 |
| | 2019-2020E EBITDA* | | | Value |
| Power | 100% | 1052 | Multiple 5.5x | 5788 |
| Coal | 100% | 37 | Multiple 4.0x | 147 |
| Logistics | 100% | 56 | Multiple 4.0x | 222 |
| Other | | 8 | Multiple 4.0x | 31 |
| Unallocated | | -22 | Multiple 4.0x | -89 |
| Sub-total | | | | 6,099 |
| Total "EV" (ex-Rusal Debt) | | | | 11,551 |
| Less net debt in EN+ Energy as at 30/09/2018E | | | | -4215 |
| Less: other minority interest as at 30/09/2018* | | | | -299 |
| EN+ Group Equity value | | | | 7037 |
| # shares | | | | 638.8 |
| PO (US\$/GDR) | | | | 11.0 |
| Current share price (US\$/GDR) | | | | 8.1 |
| Upside/(downside) potential | | | | 37% |
| total return potential | | | | 37% |
| Consolidated EV | | | | |
| Implied Equity Value | | | | 7037 |
| Add: Rusal minorities @ mkt value | | | | 2739 |
| Add: En+ (power segment) Debt | | | | 4215 |
| Add: Rusal Debt** | | | | 7,468 |
| Add: other minority interest as at 30/09/2017* | | | | 299 |
| Less: 27.8% stake in Norilsk Nickel owned by Rusal | | | | -9085 |
| Consolidated EV | | | | 12674 |

Source: BofA Merrill Lynch Global Research estimates, * includes book value of 7.5% stake in Irkutskenergo, 47.7% stake in Irkutsk Electric Grid Company, 49% stake in LLC Baikal Yacht Club

Comparable company valuations

Exhibit 1: Comparable company valuations

| 31-Jan-19 | | | | | | | | | | | | | | | | | | | | |
|--------------------------|--------|-------|---------|------|------|-------|-------|-------|-----------|------|------|-----------|-------|-------|------|------|------------------|----------|-------|-------|
| Company | Ticker | Price | Ccy | EPS | | PER | | ND/E | FCF yield | | | EV/EBITDA | | DY | | | Mkt cap US\$m | ND US\$b | | |
| | | | | 2019 | 2020 | 2019 | 2020 | | 2019 | 2018 | 2019 | 2020 | 2019 | 2020 | 2018 | 2019 | | 2020 | 2018E | 2019E |
| Average | | | | | | 15.3x | 13.0x | 28% | 7% | 11% | 8% | 6.9x | 6.7x | 4% | 4% | 3% | | | | |
| Aluminium Producers | | | | | | | | | | | | | | | | | | | | |
| Alcoa Corp. | AA | USD | 29.7 | USD | 1.7 | 2.2 | 18.0x | 13.8x | 10.7% | 1% | 6% | 9% | 4.0x | 4.4x | 0% | 0% | 0% | 5.6 | 0.7 | 0.8 |
| Norsk Hydro | NHYKF | NOK | 38.9 | NOK | 4.8 | 5.1 | 8.0x | 7.6x | 4.9% | -1% | 9% | 11% | 4.6x | 4.4x | 4% | 4% | 4% | 9.4 | 1.0 | 0.6 |
| Chalco | ALMMF | HKD | 3.0 | CNY | 0.1 | 0.1 | 23.4x | 18.8x | 95.3% | 18% | 18% | 2% | 7.2x | 6.7x | 0% | 0% | 0% | 1.5 | 10.4 | 10.0 |
| Alumina Limited | AWCMF | AUD | 2.5 | USD | 0.1 | 0.2 | 11.9x | 11.6x | -0.8% | 11% | 11% | 9% | 11.9x | 11.5x | 10% | 10% | 9% | 5.1 | 0.0 | 0.0 |
| Russian Power Companies | | | | | | | | | | | | | | | | | | | | |
| RusHydro | | RUB | 0.5 | | 0.10 | 0.115 | 5.2x | 4.5x | | 2% | 2% | 2% | 2.9x | 2.7x | 8% | 9% | 10% | 3.3 | 1.1 | 1.3 |
| European Power Companies | | | | | | | | | | | | | | | | | | | | |
| innogy | XISAF | EUR | 41.4 | EUR | 9.1 | 12.8 | 14.4x | 12.7x | 94% | 3% | 3% | 6% | 8.48 | 7.91 | 5% | 6% | 6% | | | |
| Fortum | FOJCF | EUR | 19.8 | EUR | 1.3 | 1.4 | 15.5x | 13.7x | 37.5% | 3% | 5% | 6% | 7.6x | 7.3x | 6% | 6% | 6% | 20.2 | 5.7 | 5.8 |
| Engie | ENGQF | EUR | 14.0 | EUR | 1.0 | 1.2 | 13.7x | 12.0x | 38.8% | 2% | 4% | 6% | 8.6x | 8.2x | 5% | 6% | 6% | 38.4 | 17.7 | 19.8 |
| EDF | ECIFF | EUR | 14.4 | EUR | 0.9 | 1.1 | 15.8x | 12.8x | 115.0% | 2% | 0% | 9% | 9.8x | 9.1x | 2% | 3% | 3% | 49.8 | 68.3 | 71.2 |
| RWE | RWNFF | EUR | 21.7 | EUR | 1.9 | 2.0 | 11.5x | 11.0x | 56.3% | 8% | 3% | 8% | 6.8x | 6.4x | 3% | 5% | 6% | 15.3 | 7.5 | 8.5 |
| Enel | ESOCF | EUR | 5.3 | EUR | 0.5 | 0.5 | 11.5x | 10.7x | 90.4% | 7% | 6% | 7% | 8.7x | 8.3x | 5% | 6% | 7% | 56.8 | 53.7 | 53.9 |
| Endesa | ELEZF | EUR | 21.8 | EUR | 1.5 | 1.5 | 14.7x | 14.1x | 70.9% | 2% | 4% | 5% | 9.2x | 8.9x | 6% | 7% | 7% | 26.5 | 7.0 | 7.6 |
| Naturgy | GASNF | EUR | 24.4 | EUR | 1.4 | 1.6 | 17.3x | 15.7x | 103.0% | 4% | 5% | 8% | 9.8x | 9.3x | 5% | 6% | 6% | 28.0 | 15.0 | 15.6 |
| Iberdrola | IBDSF | EUR | 7.2 | EUR | 0.5 | 0.5 | 14.0x | 13.5x | 84.8% | 2% | 3% | 3% | 9.3x | 8.8x | 5% | 5% | 5% | 52.9 | 39.3 | 42.1 |
| SSE | SSEZF | GBP | 1,170.0 | GBP | 73.2 | 105.0 | 16.0x | 11.1x | 248.6% | -2% | -2% | 4% | 10.9x | 8.8x | 8% | 8% | 7% | 15.1 | 12.9 | 13.1 |
| Russian & CEE Producers | | | | | | | | | | | | | | | | | | | | |
| KAZ Minerals Plc | KZMYF | GBP | 583.4 | USD | 0.7 | 0.7 | 10.4x | 11.0x | 130.4% | -3% | 1% | 0% | 5.6x | 5.7x | 2% | 2% | 2% | 3.5 | 2.2 | 2.2 |
| KGHM | KGHPF | PLN | 94.2 | PLN | 10.9 | 11.0 | 8.8x | 8.5x | 34.0% | 0% | 0% | 3% | 5.1x | 5.1x | 0% | 0% | 2% | 5.1 | 1.9 | 2.0 |
| Norilsk Nickel | NILSY | USD | 20.8 | USD | 3.2 | 3.2 | 6.4x | 6.5x | 172.1% | 13% | 10% | 12% | 5.3x | 5.3x | 11% | 14% | 14% | 32.7 | 7.7 | 8.2 |
| Rusal | RUAL | RUB | 29.3 | USD | 0.1 | 0.1 | 3.1x | 3.1x | 87.0% | 12% | 24% | 23% | 2.4x | 2.6x | 8% | 7% | 7% | 6.4 | 7.3 | 8.1 |
| NLMK | XKOVF | USD | 23.4 | USD | 2.8 | 2.8 | 8.3x | 9.2x | 21.8% | 11% | 13% | 13% | 5.2x | 5.5x | 14% | 11% | 11% | 14.0 | 1.4 | 1.4 |
| Erdemir | ERELF | TRY | 8.5 | TRY | 1.5 | 1.9 | 5.7x | 4.5x | -12.2% | 17% | 11% | 7% | 3.4x | 2.8x | 14% | 13% | 17% | 5.7 | -0.9 | -0.8 |
| En+ Group | ENPL | USD | 8.1 | USD | 1.7 | 1.9 | 4.6x | 4.3x | 138.4% | 21% | 26% | 31% | 3.3x | 3.3x | 0% | 10% | 14% | 4.6 | 11.0 | 10.0 |
| SoverSteel | SVJTY | USD | 15.3 | USD | 2.3 | 2.4 | 6.6x | 6.4x | 30.5% | 11% | 7% | 10% | 4.5x | 4.2x | 14% | 12% | 14% | 12.4 | 1.0 | 1.2 |
| MMK | MGKPF | RUB | 43.3 | USD | 0.1 | 0.1 | 5.6x | 5.6x | -5.6% | 15% | 15% | 15% | 3.2x | 3.1x | 14% | 15% | 15% | 7.4 | -0.4 | -0.3 |
| Evrast | EVRZF | GBP | 498.2 | USD | 0.9 | 0.7 | 7.6x | 10.0x | 127.3% | 18% | 12% | 8% | 5.1x | 5.8x | 15% | 12% | 8% | 9.5 | 3.8 | 3.6 |
| Ferrexpo | FEEXF | GBP | 258.4 | USD | 0.7 | 0.7 | 4.8x | 5.1x | 9.0% | 8% | 14% | 19% | 4.1x | 4.4x | 3% | 3% | 3% | 2.0 | 0.3 | 0.1 |
| Average | | | | | | | 11.4x | 10.3x | 48% | 7% | 7% | 9% | 6.1x | 5.8x | 5% | 6% | 6% | | | |
| Median | | | | | | | 11.2x | 10.8x | 34% | 6% | 7% | 8% | 5.3x | 5.6x | 5% | 5% | 6% | | | |

Source: BofA Merrill Lynch Global Research estimates. Priced as of 31 January 2019, Bloomberg estimates for non-covered RusHydro

2019E P/E of 4.6x

En+ Group looks inexpensive on 4.6x our 2019E P/E vs. comparable European power companies on 14.4x and aluminium producers on 15.3x.

2019E EV/EBITDA of 3.3x

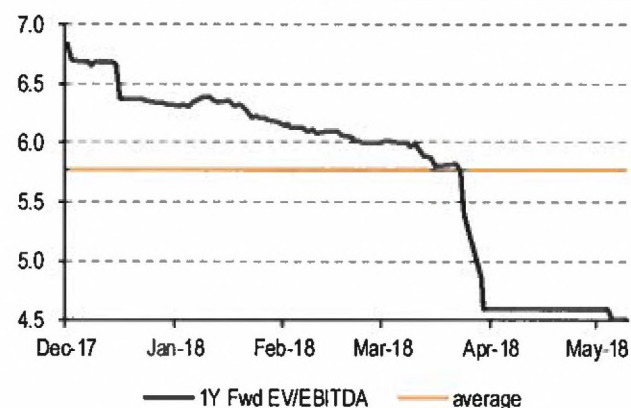
En+ Group looks cheap on 3.3x 2019E EV/EBITDA vs. comparable European power companies on 8.5x and global aluminium producers on 6.9x.

2019-20E dividend yield at 10-14%

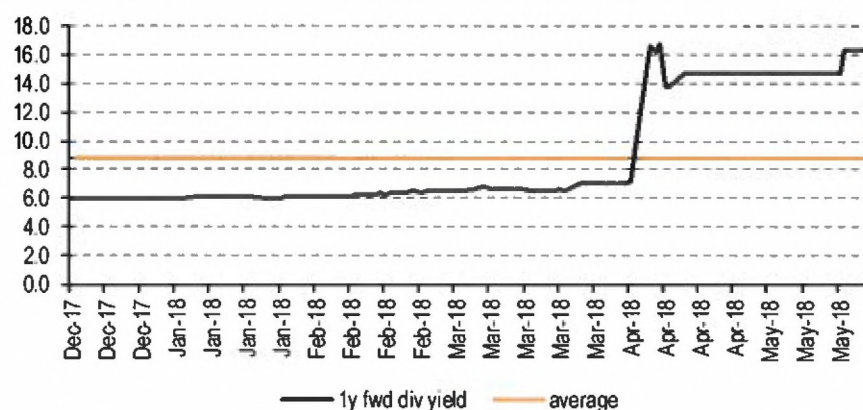
On our estimates, En+ Group should pay an attractive 10-14% dividend yield for 2019-20E, above the average for aluminium companies of 4% and for European power companies of 6%.

Chart 1: En+ traded on 5-6x consensus 1-year fwd P/E before US sanctions in April -18

Source: BofA Merrill Lynch Global Research, Bloomberg

Chart 2: En+ traded on 6-6.5x consensus 1-year fwd EV/EBITDA before US sanctions in April-18

Source: BofA Merrill Lynch Global Research, Bloomberg

Chart 3: En+ traded on consensus 6-7% 1-year fwd dividend yield P/E before US sanctions in April-18

Source: BofA Merrill Lynch Global Research, Bloomberg

Macro assumptions

We use aluminium price of US\$2,025/t for 2019, +7% vs. the spot and USDRUB62 from 2019 onwards that is 5% stronger than the spot USDRUB rate.

Table 2: BofA ML macro and commodity price assumptions

| | Spot Price | 2018E | 2019E | 2020E | 2021E | 2019 vs. spot |
|--------------------|------------|--------|--------|--------|--------|---------------|
| USDRUB | 65.58 | 62.82 | 62.00 | 62.00 | 62.00 | -5% |
| Aluminium(US\$/t) | 1,892 | 2,108 | 2,025 | 2,026 | 2,026 | 7% |
| Alumina(US\$/t) | 405 | 473 | 375 | 400 | 410 | -7% |
| Nickel(US\$/t) | 12,407 | 13,118 | 13,625 | 15,693 | 15,693 | 10% |
| Copper(US\$/t) | 6,151 | 6,527 | 6,313 | 6,667 | 6,667 | 3% |
| Palladium(US\$/oz) | 1,356 | 1,033 | 1,475 | 1,450 | 1,300 | 9% |
| Platinum(US\$/oz) | 825 | 881 | 869 | 1,125 | 1,300 | 5% |

Source: BofA Merrill Lynch Global Research, Bloomberg

Key valuation & financial metrics

We provide indicative multiples (PE, EV/EBITDA, FCF Yield, DY) at our target equity value. For EBITDA multiples, we use an EV based on consolidated net debt, include the book value of the minority share of Rusal equity and other subsidiaries (i.e. 7.5% stake in Irkutskenergo) and subtract the market value of Rusal's 27.82% share of Norilsk Nickel.

We use the simple consolidated EBITDA of EN+ Group, which we call "simple". We provide EBITDA Proportionate for reference purposes that includes Rusal's 27.82% share of Norilsk Nickel earnings.

Table 3: Key valuation metrics implied by PO US\$11.0/GDR

| Key financials | | 2014A | 2015A | 2016A | 2017E | 2018E | 2019E | 2019E |
|-------------------------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Revenue | | 11917 | 10529 | 9776 | 12094 | 12532 | 12809 | 12913 |
| EBITDA - Simple | | 2168 | 2732 | 2311 | 3223 | 3409 | 2999 | 2954 |
| EBITDA - Proportionate | | 3524 | 3885 | 3241 | 4343 | 5081 | 5149 | 5132 |
| Net Income | | -624 | 580 | 1361 | 727 | 1031 | 1110 | 1184 |
| Dividends declared / estimated | | 267 | 263 | 636 | 270 | 0 | 502 | 696 |
| Free Cash Flow (FCF) - consolidated | | 1133 | 1403 | 1068 | 1572 | 952 | 1445 | 1602 |
| Free Cash Flow (FCF) - attributable | | 502 | 723 | 470 | 1196 | 1001 | 1193 | 1410 |
| Net Debt - EN+ Segment | | 3563 | 3454 | 5518 | 4407 | 3703 | 3923 | 4017 |
| Net Debt - Rusal | | 8837 | 8372 | 8421 | 7648 | 7279 | 6116 | 5116 |
| Net Debt - Total | | 12400 | 11826 | 13939 | 12055 | 10982 | 10039 | 9133 |
| Net debt/EBITDA (simple) | | 5.7x | 4.3x | 6.0x | 3.7x | 3.2x | 3.3x | 3.1x |
| Net debt/EBITDA (proportional) | | 3.5x | 3.0x | 4.3x | 2.8x | 2.2x | 1.9x | 1.8x |
| Financial Metrics at PO | US\$ m | 2014A | 2015A | 2016A | 2017E | 2018E | 2019E | 2019E |
| Target market cap | 7037 | | | | | | | |
| Target EV inc Rusal Debt | 12674 | | | | | | | |
| Price/Earnings | | nm | 12.1x | 5.2x | 9.7x | 6.8x | 6.3x | 5.9x |
| EV/EBITDA - Simple | | 5.8x | 4.6x | 5.5x | 3.9x | 3.7x | 4.2x | 4.3x |
| EV/EBITDA - Proportionate | | 3.6x | 3.3x | 3.9x | 2.9x | 2.5x | 2.5x | 2.5x |
| Attributable FCF Yield to equity | | 7.1% | 10.3% | 6.7% | 17.0% | 14.2% | 17.0% | 20.0% |
| Implied DY | | 3.8% | 3.7% | 9.0% | 3.8% | 0.0% | 7.1% | 9.9% |

Source: BofA Merrill Lynch Global Research estimates

All EBITDA is not created equal

Inasmuch as EBITDA is not an IFRS metric, we think there is room for "judgement" on the appropriate EBITDA to use for En+. We consider the following options and definitions.

"Headline" (reported adjusted) EBITDA: Includes En+ Energy segment, Rusal's EBITDA, fully consolidated. Includes a zero EBITDA contribution from Rusal's stake in Norilsk.

Limitation: Excludes the (strong) cash flow from Norilsk dividends. Possibly overstates attributable EBITDA from Rusal.

Attributable EBITDA (I): Includes En+ Energy segment, the 48.1% share of Rusal EBITDA, zero contribution from Norilsk.

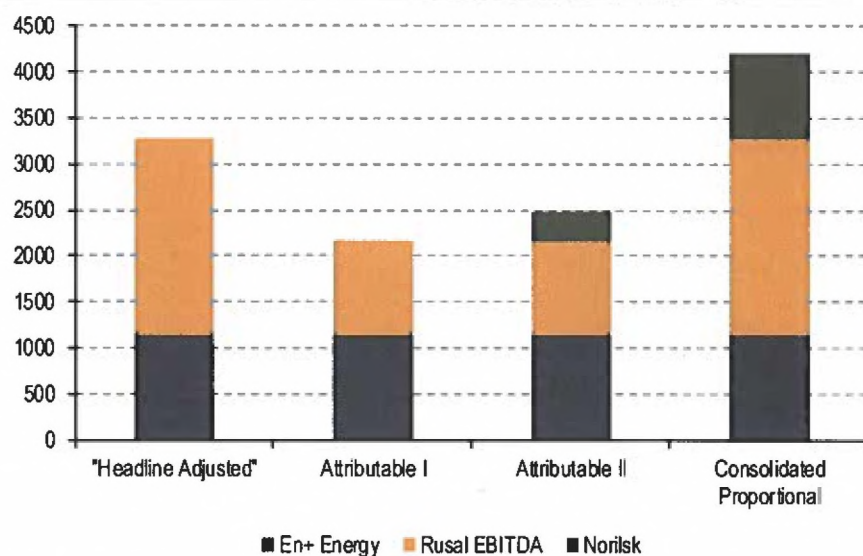
Limitation: Excludes the (strong) cash flow from Norilsk dividends.

Attributable EBITDA (II): Includes En+ Energy segment, the 48.1% share of Rusal EBITDA and En+'s see-through share of Norilsk dividends.

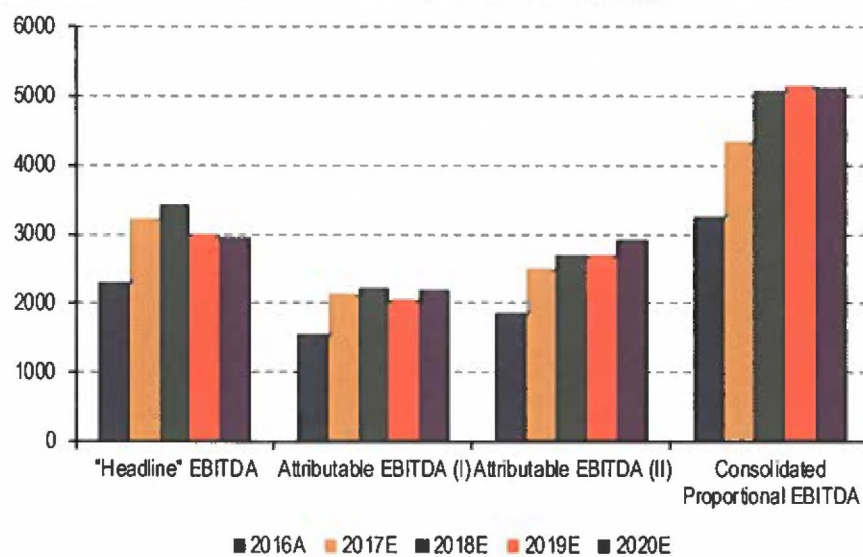
Limitation: Somewhat complicated.

Consolidated Proportional: Includes En+ Energy segment, 100% of Rusal's EBITDA (i.e., fully consolidated) and Rusal's proportional share of Norilsk's EBITDA.

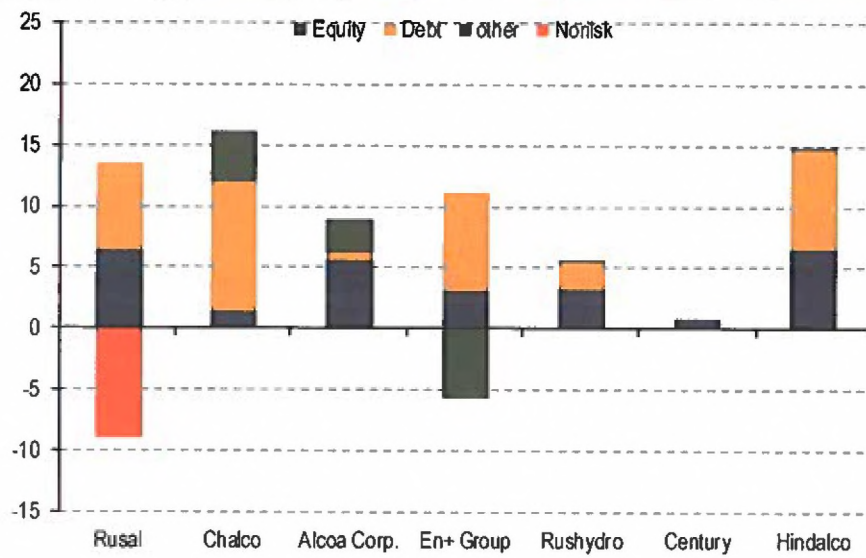
Limitation: Possibly overstates EBITDA as it includes 100% of Rusal and 100% of Rusal's share of Norilsk EBITDA. Norilsk cash flow = dividends, not EBITDA.

Chart 4: En+ various EBITDA measures. "Headline" is the En+ reported adjusted figure (2017A)

Source: En+, Rusal data, BofA Merrill Lynch Global Research estimates

Chart 5: En+ various EBITDA measures Historic & forecast

Source: En+, Rusal data, BofA Merrill Lynch Global Research estimates

Chart 6: Aluminium producers' capital structure – Norilsk Nickel stake valued at market US\$8.9bn

Source: BofA Merrill Lynch Global Research estimates

Table 4: Norilsk Nickel stake valuation

| | |
|--|--------|
| Stake | 27.82% |
| PO (US\$m/GDR) | 25.00 |
| # shares | 1,582 |
| Target market cap (US\$mn) | 39,562 |
| % discount | 0% |
| Rusal's stake in Norilsk Nickel (US\$mn) | 11,006 |

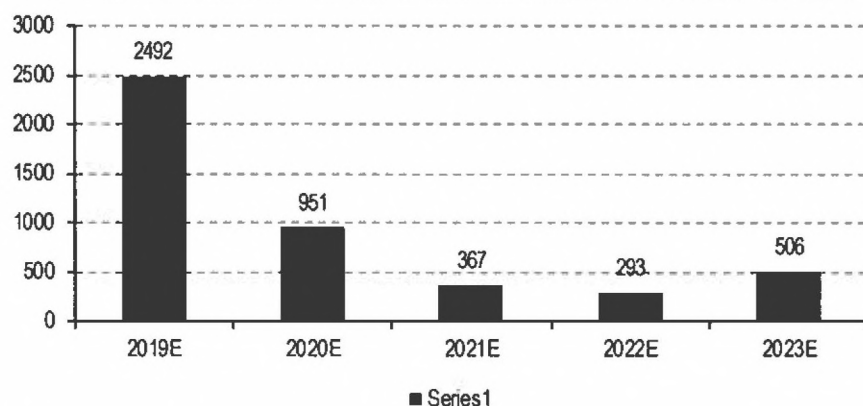
Source: BofA Merrill Lynch Global Research estimates

Debt vs. dividends

Debt maturity

En+ Energy segment has net debt of US\$4.0bn as of 3Q2018, out of which US\$2.5bn is outstanding in 2019. We assume that the company did not repay US\$1.25bn debt in 2018 because of sanctions and deferred it to 2019.

Chart 7: En+ Energy debt repayment schedule



Source: BofA Merrill Lynch Global Research estimates, company report

En+ dividend policy

We think that En+'s portfolio of low-cost operating assets + low capital intensity growth opportunities + deleveraging and cost of capital optimization should enable attractive dividend distributions.

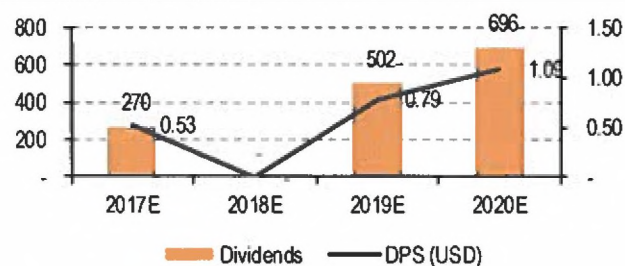
Subject to, among others, sufficient distributable reserves, En+'s dividend policy announced during the IPO in 2017 stipulates a dividend on at least a semi-annual basis, which will be equal to the sum of:

- 100% of dividends received from Rusal
- 75% of Free Cash Flow* of En+'s Energy segment with a minimum payment of US\$250mn/yr

*Free Cash Flow is defined by En+ as equal to Cash Flow from Operations less Capital Expenditure (excluding business acquisitions) less Net Interest Paid.

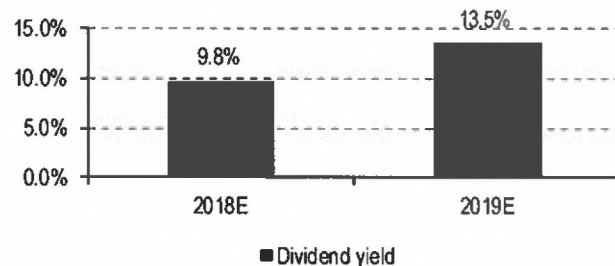
We assume that En+ should waive the dividend for 2018 because of sanctions and significant US\$2.5bn debt repayment due in 2019 (out of which US\$1.25bn is deferred from 2018). We expect En+ to resume dividends in line with the dividend policy starting from 2019 onwards.

Chart 8: En+ Group dividends (US\$mn) and DPS (US\$)



Source: BofA Merrill Lynch Global Research estimates

Chart 9: En+ Group dividend yield



Source: BofA Merrill Lynch Global Research estimates

Sanctions relief with special conditions

On 27 January, the US Treasury's Office of Foreign Assets Control (OFAC) [lifted sanctions](#) imposed on En+ Group, UC Rusal and EuroSibEnergo (ESE), following an earlier [notification submitted to Congress](#) on December 19, 2018.

Under the terms of their removal from OFAC's List of Specially Designated Nationals and Blocked Persons ("SDN List"), En+, Rusal, and ESE have reduced Oleg Deripaska's direct and indirect shareholding stake in these companies and severed his control. This action ensures that the majority of directors on the En+ and Rusal boards will be independent directors – including U.S. and European persons – who have no business, professional, or family ties to Deripaska or any other SDN, and that independent U.S. persons vote a significant bloc of the shares of En+.

The companies have also agreed to unprecedented transparency for the US Treasury into their operations by undertaking extensive, ongoing auditing, certification, and reporting requirements. All sanctions on Oleg Deripaska continue in force.

Below are the main terms of sanctions removal, which is a binding agreement between with OFAC that remains in effect as long as Deripaska is on the SDN List:

Deripaska's ownership in En+ brought well below 50%.

- Deripaska's stake in En+ will fall from around 70% to 44.95%, and his stake cannot be increased. VTB Bank or another non-SDN assignee approved by OFAC will take ownership of a block of Deripaska's shares in En+ pledged as collateral for previously issued obligations of entities controlled by Deripaska issued by VTB bank
- Deripaska's ownership interest in En+ will fall further as a result of a transaction whereby the Swiss company Glencore or its subsidiary swaps shares in Rusal for a direct ownership interest in En+.
- Deripaska will also donate a block of shares to a charitable foundation.
- None of these transactions will allow Deripaska to obtain cash either in return for his shares or from future dividends issued by En+, Rusal or ESE.

Limited voting rights in En+.

- Deripaska will not be able to vote more than 35% of En+ shares. Deripaska will assign any voting rights above 35% of En+ shares to a voting trust obligated to vote in the same manner as the majority of shares held by shareholders other than Deripaska.
- The voting rights under the shares owned by Deripaska's family members will be assigned to an independent third party.
- Similarly, VTB Bank will reassign voting rights associated with the shares it takes ownership of to an independent party.

Independent board of directors for En+.

En+ agreed to create a board of 12 directors with a majority of independent directors. Eight of the directors will be independent of Deripaska.

Further extinguishment of control.

To further extinguish potential avenues of control by Deripaska, he is required to provide a deed letter to En+ that includes a number of binding legal commitments severing his ability to control En+.

Ongoing transparency through auditing, certification, and reporting.
Rusal and En+ have agreed to provide OFAC with an unprecedented level of transparency into their management.

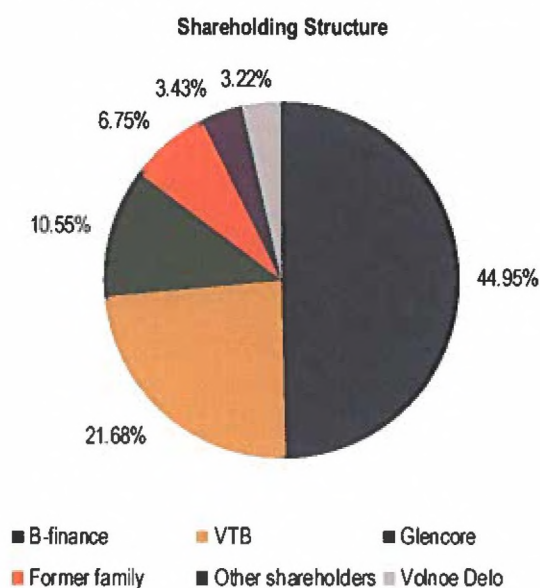
Additional commitments with respect to Rusal.

OFAC designated Rusal for being owned or controlled by En+. Through the same binding agreement with OFAC, Rusal and En+ agreed that En+ shall continue to control Rusal through a 56.88% stake and En+ shall retain its right to nominate the CEO of Rusal.

En+ to empower minority shareholders

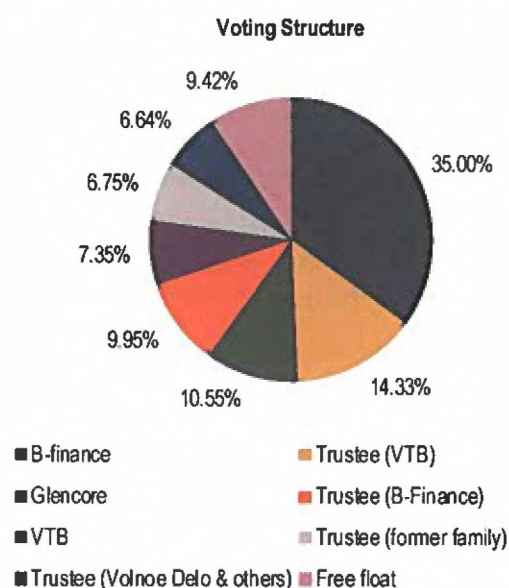
En+ is a controlling shareholder of Rusal with 57% stake. The changes to En+ shareholder structure may directly impact Rusal's shareholders. We conclude that the new shareholder and voting structure of En+ increase the power of Glencore, VTB and financial minority investors. We see this is a positive development in En+'s corporate governance with a positive read across to Rusal.

Chart 10: En+'s new shareholder structure



Source: BofA Merrill Lynch Global Research estimates, company report

Chart 11: En+'s new voting structure



Source: BofA Merrill Lynch Global Research estimates, company report

En+'s new shareholder structure:

- 44.95% - Oleg Deripaska via B-Finance
- 21.68% - Russian bank VTB
- 10.55% - Glencore
- 6.75% - Oleg Deripaska's former family members
- 3.42% - other shareholders
- 3.22% - Volnoe Delo charitable foundation
- 9.42% - free float

En+'s new voting structure:

- 35% - Oleg Deripaska via B-Finance
- 14.33% - an Independent trustee voting with part of VTB-owned stake
- 10.55% - Glencore
- 9.95% - an Independent trustee voting with part of Deripaska-owned stake
- 7.35% - Russian bank VTB
- 6.75% - an Independent trustee voting with the stake owned by Oleg Deripaska's former family members
- 6.64% an Independent trustee voting with the stakes owned by other shareholders (3.42%) and Volnoe Delo charitable foundation (3.22%)
- 9.42% - free float

Votes held by independent trustees:

- As a part of the requirements for lifting sanctions from Rusal/En+, Mr. Deripaska will have limited voting rights not more than 35%, while any voting rights above this level (9.95%) will assign to a trust, which obligated to vote in the same manner as the majority of shares held by shareholders other than Deripaska.
- OFAC has also identified several shareholders with professional or family ties to Deripaska. The voting rights under these shares (3.42%+3.22%) will fully assign to an independent third party with no ties to Deripaska.
- Finally, a part of VTB's voting rights (14.33%) will also assign to an independent trustees.

As per the above agreement with OFAC, total 37.67% of votes in En+ should end up with the independent trustees. Independent trustees holding 9.95% stake owned by Oleg Deripaska are obligated to vote in the same manner as the majority of shares held by shareholders others than Deripaska.

The voting structure should increase the power of minority shareholders Glencore (10.55% stake), VTB (7.35% stake) and financial investors (9.42% stake in free float) and improve the corporate governance in En+, in our view.

Independent trustee

D.J Baker, David Crane, Arthur Dodge and Ogier Global Nominee (Jersey) Limited will be the independent trustees who will exercise the voting rights as required by OFAC.

- **D.J Baker** is a corporate lawyer, who served as Partner of restructuring group at Latham & Watkins LLP until July 2017 and served as its Global Co-Chair of the Corporate Restructuring Practice Group. Since retiring from Latham, Mr. Baker has concentrated on board-related work.
- **David Crane** is the senior operating executive to Pegasus (a New York City-based private equity) and a member of the BoD of Lighting Science Group (a leader in the field of biological lighting), and chairman of Impala Holdings (a company focused on renewables development in Africa). From 2003 until 2015, David Crane was CEO of NRG, which was in Chapter 11 bankruptcy, when he joined the company. Prior to NRG, he was president and chief executive officer of International Power Plc, a London-based FTSE 100 company, which developed, owned and operated power plants in fourteen countries. Mr. Crane was named Energy Industry "CEO of the Year" by EnergyBiz in 2010, top CEO in the electric utility sector by Institutional Investor in 2011 and "Entrepreneur of the Year" by Ernst & Young in 2010.

- **Ogier Global Nominee (Jersey) Limited** is a law firm, which provides legal advice on BVI, Cayman, Guernsey, Jersey and Luxembourg law. Network of locations includes Hong Kong, London, Shanghai and Tokyo. The company focuses on services for the corporate and financial sectors, principally in the areas of banking and finance, corporate and commercial, investment funds, dispute resolution, private equity and private wealth.

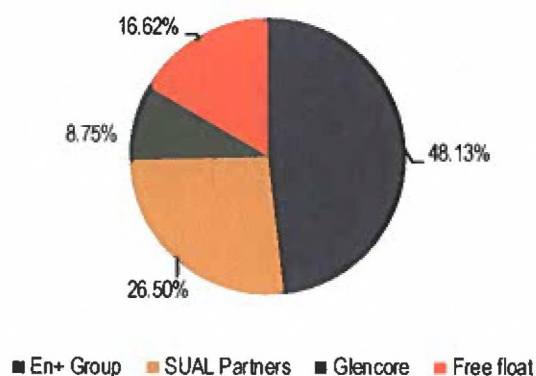
En+ to increase stake in Rusal above 50%

As part of the agreement with OFAC, Glencore is swapping its 8.75% stake in Rusal for a 10.55% stake En+. As a result, En+'s ownership in Rusal should increase from 48.13% to 56.88% in two stages:

- The 1st stage will involve approximately 2% of Rusal's shares to be transferred to En+ following the delisting of En+ and Rusal from the SDN list
- The remaining 6.75% of Rusal's shares to be transferred 12 months later

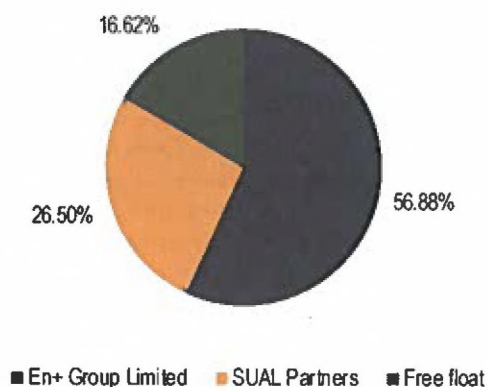
En+ is obligated to issue 67,420,324 new shares in the form of GDRs, representing approximately 10.55% of the enlarged share capital of the company (638,848,896 shares).

Chart 12: Rusal ownership structure before OFAC deal



Source: BofA Merrill Lynch Global Research estimates, company report

Chart 13: Rusal ownership structure after OFAC deal



Source: BofA Merrill Lynch Global Research estimates, company report

En+ already had control over Rusal before the OFAC agreement, the increase in ownership should not result in any significant change of shareholder powers in Rusal, in our view.

Changes to the management

Rusal's Board of Directors (BoD) and senior management team were reshuffled throughout 2018 as managers with ties to Oleg Deripaska were leaving the company. Still, we cannot rule out that the recent changes to En+'s management may potentially lead to more changes in Rusal.

The new Board members of En+

The removal of En+'s from the SDN list was subject to a number of conditions, including changing the composition of En+ and Rusal's BoD. As the result, the company announced a number of appointments of independent directors in addition to the independent chairman Lord Barker and independent director Philippe Mailfait. We note the high calibre and extensive expertise of the new Board members in finance, industry and corporate governance issues.

Christopher Bancroft Burnham - the Chairman and CEO of Cambridge Global Capital LLC. Mr. Burnham is a former Vice Chairman at Deutsche Bank Asset Management and co-founded and led Deutsche Bank's direct private equity group, RREEF Capital Partners. Mr. Burnham is also a former Assistant Secretary of State for Resource Management and Chief Financial Officer of the U.S. Department of State.

Carl Hughes has over 30 years' experience in the oil and gas, mining and utilities sectors. Mr. Hughes is a Non-executive Director and the Audit Committee Chairman of EnQuest PLC and a member of the Finance and Audit Committee of the Energy Institute. Carl Hughes served as a Vice Chairman, senior audit partner and leader of Deloitte's energy and resources business globally and as a chartered accountant and partner at Arthur Andersen.

Joan MacNaughton worked in the UK government until 2007 in a wide number of leadership roles, including as Director General of Energy and subsequently as Director General, International Energy Security at the Department of Trade and Industry. Ms. MacNaughton is currently Chair of The Climate Group and of the Advisory Board of the New Energy Coalition of Europe. She also sits on the Strategic Advisory Board of Engie UK and is a Non-Executive Director of the James Hutton Institute and of the Energy Savings Trust.

Nicholas Jordan has more than 30 years' experience in senior positions in leading global financial institutions. Mr. Jordan was Co-CEO of Goldman Sachs Russia and CEO of Russia & the Commonwealth of Independent States at UBS Group AG. He held previously positions as Chairman of the Supervisory Board at 4finance Group.

Igor Lojevsky has an extensive experience of board-level governance in large, complex organisations with international scope of operations. Mr. Lojevsky previously served as Vice Chairman of Eastern Europe for Deutsche Bank's Asset & Wealth Management and Corporate Banking & Securities divisions.

Alexander Chmel has extensive experience working as an Independent Director and a Chairman or a member of audit committees of Russian public companies. He currently holds the position of Senior Advisor to Board Practice of Spencer Stuart in Russia and CIS. During his career, Mr. Chmel worked in senior management roles in PwC on various projects in energy, utilities and mining practice in Russia and Central & Eastern Europe.

Andrey Sharonov has been the President of the Moscow School of Management SKOLKOVO since September 2016, having originally joined the Business School team as Dean in September 2013. He is Chairman of the Board of NefteTransService LLC, and a member of the Management Board of such companies as PJSC Sofkomflot, PJSC PhosAgro and JSC Medicina. From 2007 through 2010, Mr. Sharonov was managing director and Chairman of the Board of Directors of Troika Dialog Investment Company, and headed its investment banking business.

En+'s senior managers replaced in November 2018

En+'s former BoD appointed Vladimir Kiriukhin as Chief Executive Officer and Vyacheslav Solomin as Chief Operating Officer of the Group effective from 1 November 2018 in light of the potential implementation of the Barker Plan.

- **CEO Mr. Kiriukhin** is responsible for the long-term strategy implementation, the business development of the entire Group and cooperation with key external stakeholders, including regulators. He held various senior positions, including First Deputy CEO and CEO of JSC EuroSibEnergo (a 100% subsidiary of EN+) between 2001 and 2008. Vladimir Kiriukhin was also a member of the supervisory board of the Non-Commercial Partnership Market Council, the supervisory board of the Non-Commercial Partnership Energy Producers Council and Chairman of the Board of Directors of the Moscow Energy Exchange.
- **COO Mr. Solomin** focuses on strengthening the company's environmental practices, business planning and as well as its day-to-day operations in the new market environment. Vyacheslav Solomin was appointed CEO of EN+ in April 2018. Previously, he served as CEO of JSC EuroSibEnergo since May 2014. From 2007 to 2017, he held various director positions within EN+, including COO of the Group.

Rusal's management

The recent changes in En+'s BoD may possibly lead to some changes in Rusal's management, although we note that Rusal's CEO was just appointed in November 2018 ahead of the potential implementation of the Barker Plan.

The members of the board of directors of UC RUSAL are currently set out as below:

Table 5: UC RUSAL's list of directors and their roles

| Executive Directors | Non-executive Directors | Independent Non-executive Directors |
|--|---|--|
| Mr. Evgenii Nikitin Mr. Evgenii Vavilov Mr. Sergei Popov | Mr. Marco Musetti Mr. Vyacheslav Solomin Mr. Timur Valiev | Dr. Elsie Leung Oi-sie Mr. Dmitry Vasiliev Mr. Bernard Zonneveld |

Source: Company data

The membership of the Board committees on which the relevant Board members serve:

Table 6: UC RUSAL's membership of the Board committees

| | Audit Committee | Corporate Governance & Nomination Committee | Remuneration Committee | Health, Safety and Environmental Committee | Standing Committee | Marketing Committee |
|------------------------|-----------------|---|------------------------|--|--------------------|---------------------|
| Dr. Elsie Leung Oi-sie | Member | | Chairman | | | |
| Mr. Dmitry Vasiliev | Member | Chairman | | | Member | |
| Mr. Bernard Zonneveld | Chairman | Member | Member | Member | Member | Member |
| Mr. Marco Musetti | | | | | | |
| Mr. Evgenii Nikitin | | | | | | |
| Mr. Evgenii Vavilov | | | | | | |
| Mr. Vyacheslav Solomin | | | | | | |
| Mr. Timur Valiev | | | | | Member | |

Source: Company data

The BoD appointed Evgenii Nikitin as the new CEO effective from 1 November 2018.

Evgenii Nikitin - Chief Executive Officer

Mr. Nikitin was the acting CEO since May 2018 and RUSAL's Head of Aluminium Division since January 2014. Prior, Mr. Nikitin held the position of Director of Aluminium Division East since October 2013. Among other positions, Mr. Nikitin was the Managing Director of Krasnoyarsk aluminium smelter (KrAZ), one of the world's largest aluminium production facilities. From 2007 to 2010, he was managing director of the Sayanogorsk smelter (SAZ) after beginning his career with RUSAL as a pot operator back in 1993.

En+ in brief

En+ Group is a vertically integrated power and aluminium company. It has c.20 GW power capacity, predominantly hydro and owns a 48.13% stake in Rusal. En+ is beneficially controlled (77.4%) by Oleg Deripaska, a Russian businessman, and his family.

Rusal + Hydro Power

Broadly, we think of En+ as two key businesses:

Metals segment: EN+ Group has a 48.13% shareholding in Rusal which itself owns a 27.8% stake in Norilsk Nickel and 50% of BEMO (Boguchansk smelter/hydro power JV). As a JV, BEMO is not consolidated in the group's IFRS results. Despite En+'s less than 50% holding, Rusal is deemed to be "controlled" and, as such, its financials are fully consolidated. Control results from a combination of a significant shareholding and terms of the shareholder agreement with non-controlling shareholders of Rusal (including the right to nominate at least 50% of the board of directors and the CEO).

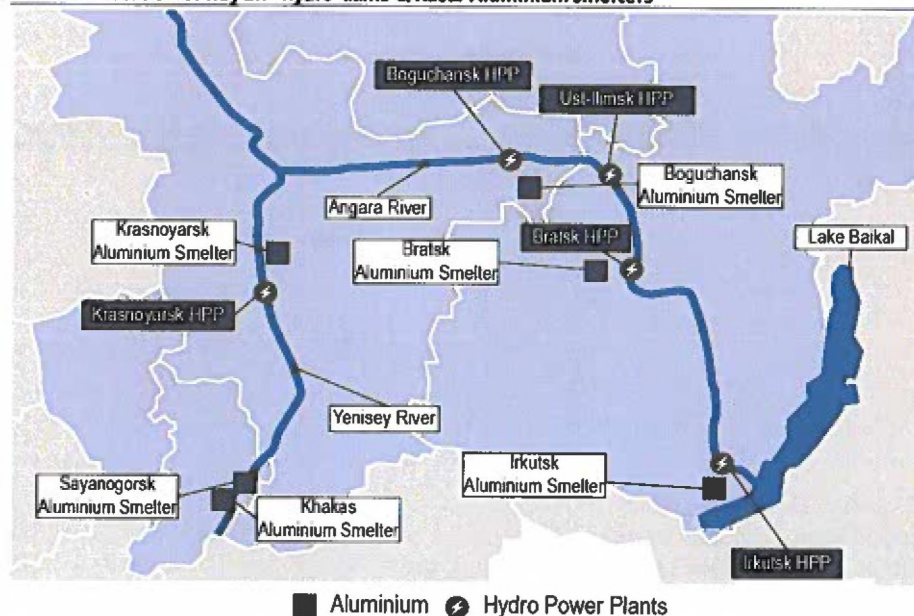
Energy segment: The Energy segment predominantly comprises power assets and operations, owned by En+ Group, including, but not limited to coal mining, logistics and other.

The group has five hydro power plants with 15.1 GW of capacity and a series of combined heat and power thermal (fossil fuel) plants with 4.6 GW of capacity. Annual hydro production of c.56 TWh broadly covers Rusal's annual power demand. The business also produces and transports coal for its own needs with some third-party sales.

Rusal is listed; Energy is relatively "new"

Rusal has been listed since January 2010, so we assume investors have knowledge of its assets. En+ Group went public in November 2018, but was put on SDN list already in April 2018. We assume that investors have less knowledge about En+'s power assets than about its aluminium business. En+'s power assets are in Siberia on the Angara River (which flows out of Lake Baikal) and on the Yenisey River. They are mostly Soviet Era dams close to Rusal's large Siberian smelters.

Exhibit 2: Location of key En+ hydro-dams & Rusal Aluminium smelters

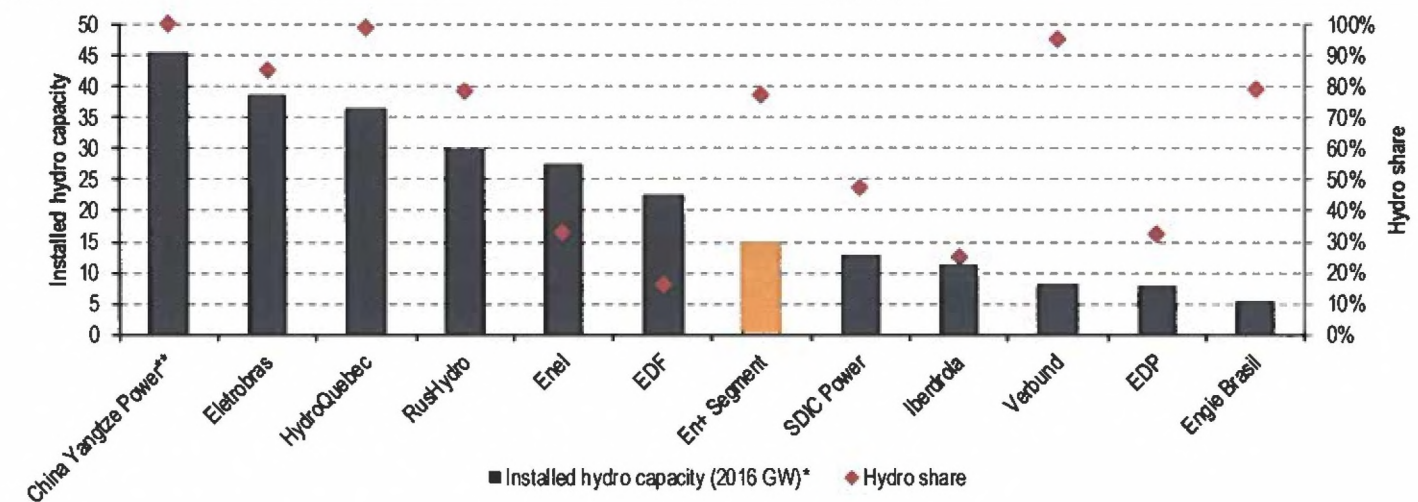


Source: En+

En+ Group: where it stands in the world

En+ Group controls the largest private hydro power group globally and is the largest aluminium producer ex-China by production volume (source: En+).

Chart 14: Top power companies by installed capacity globally



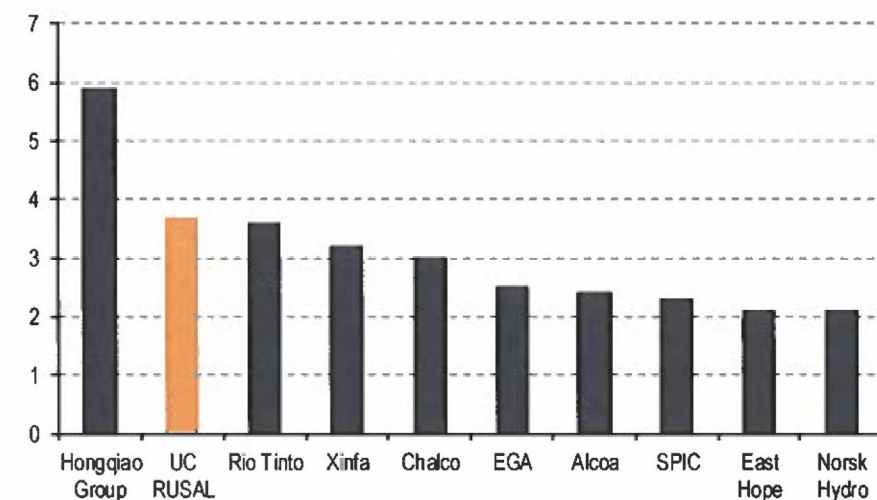
Source: BofA Merrill Lynch Global Research, Company data

* Capacity data for China Yangtze, Eletrobras, RusHydro, SDIC Power as of 2015

** Subsidiary of China Three Gorges Corporation

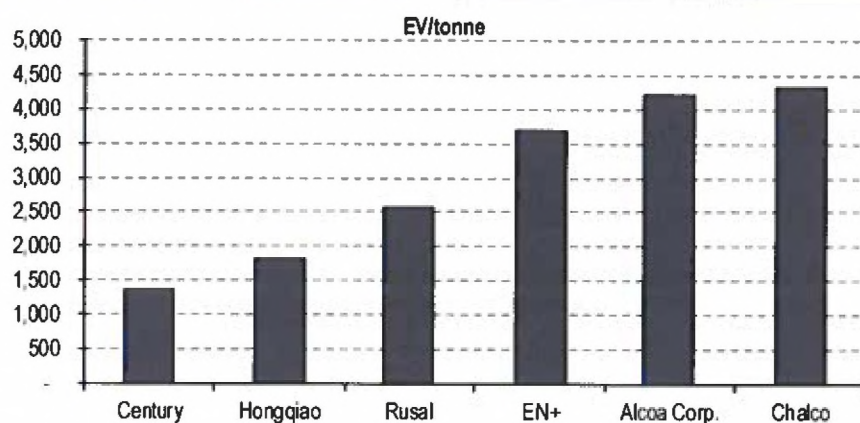
Rusal is the second aluminium company in the world after China's Hongqiao Group.

Chart 15: Leading aluminium producers globally (2016 production – Mt)



Source: BofA Merrill Lynch Global Research, Company data

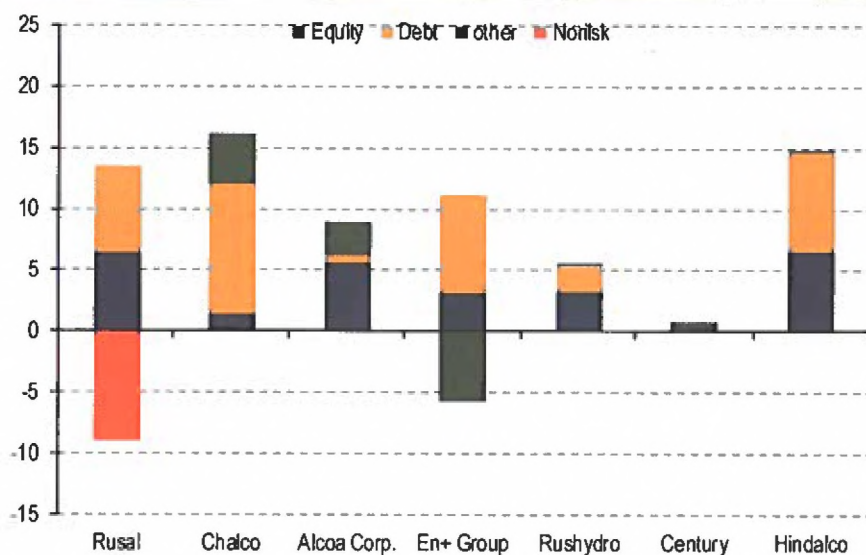
Chart 16: EV/steel capacity (US\$/t)



Source: BofA Merrill Lynch Global Research

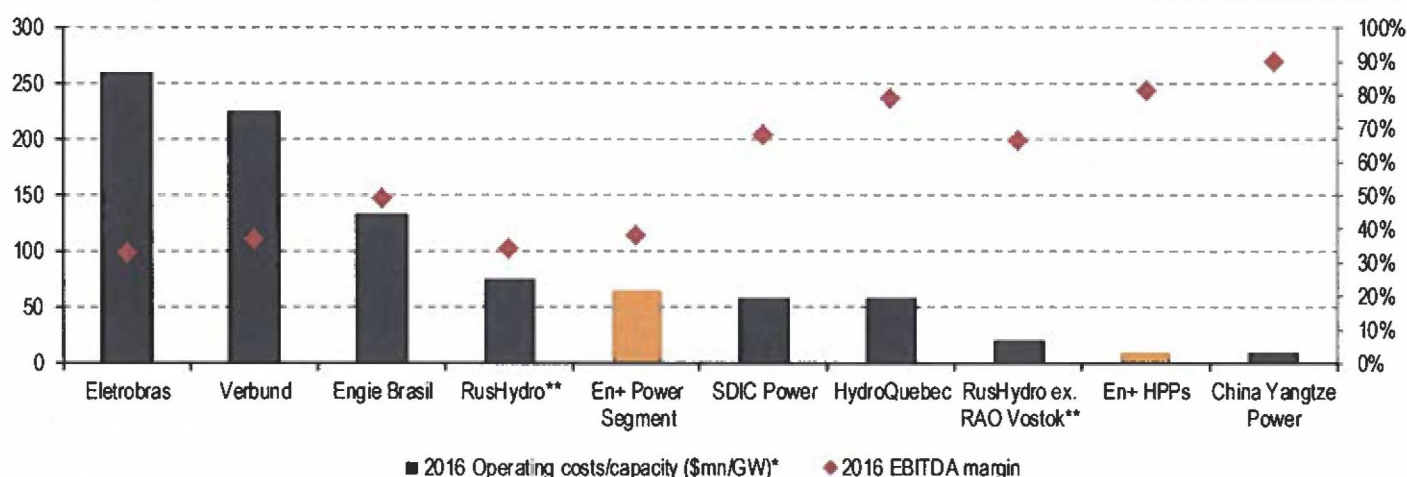
Via its stake in Rusal, En+ has a large 27.8% stake in Norilsk Nickel, a Russian diversified mining company.

Chart 17: Aluminium producers' capital structure – Norilsk Nickel stake valued at market US\$8.9bn



Source: BofA Merrill Lynch Global Research estimates

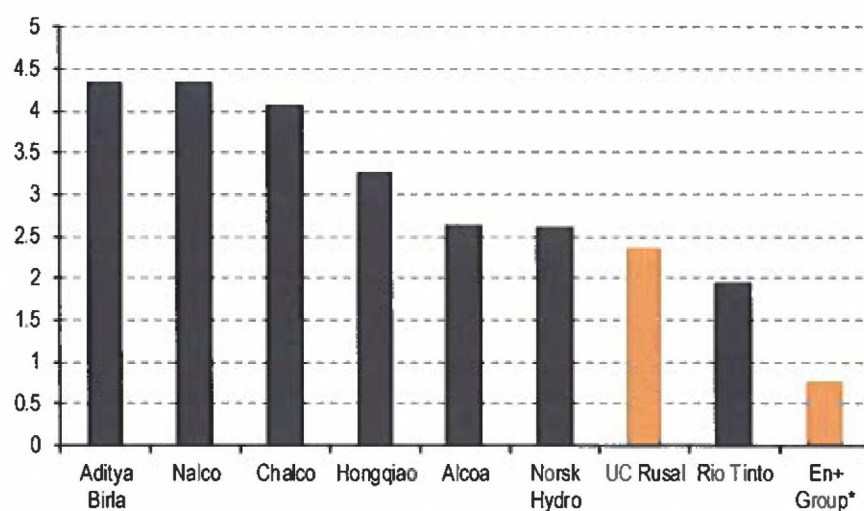
En+'s large-scale hydro assets have low operating costs and high margins. The Combined Heat and Power (CHP) plants are higher-cost assets that run at relatively lower margins (high variable cost). Overall, we see that profitability and cash flow is driven by the hydro assets.

Chart 18: Operating costs/capacity (\$mm/GW)

Source: BofA Merrill Lynch Global Research estimates, Company data

Despite delivering high margins (because of extremely low unit operating costs), the Siberian power system is still relatively well-supplied, meaning quite low realized power prices for Rusal (<US\$25/MWh).

On a “see-through” basis, if we assumed power was delivered to Rusal “at cost”, then the realized cost/MWh would be <US\$10 for En+ on a consolidated basis.

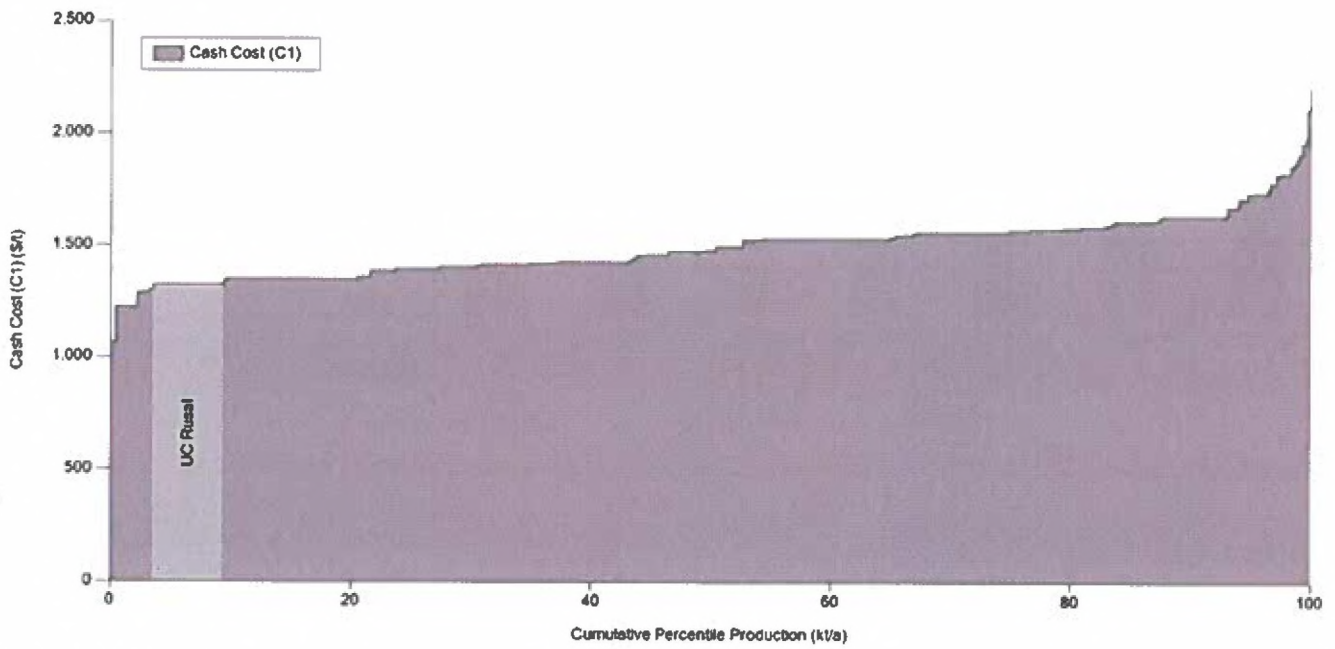
Chart 19: 2016 Electricity costs (USc/kWh)

Source: BofA Merrill Lynch Global Research, Company data

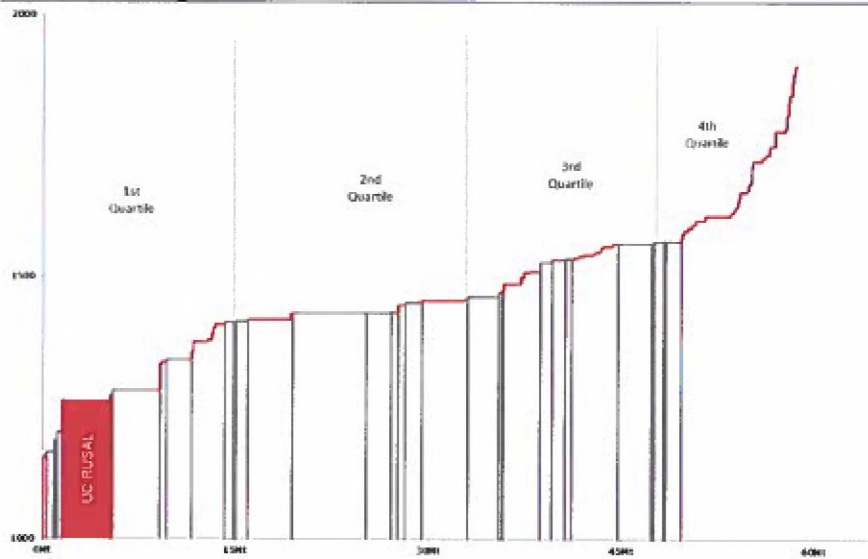
* En+ Group electricity costs on a look-through basis are calculated as HPP power generating costs (RUB 10 bln) divided by HPP generation (56.3 TWh) plus transmission tariff charged by Irkutsk Electric Grid Company to Rusal (0.346 RUB / kWh) at average USD/RUB rate of 67.03

Cash costs vs. peers

We present a few “cost curves”, giving indications of the relative competitiveness of Rusal’s smelting assets. UC Rusal’s smelters operate firmly in the lowest quartile of the cost curve, whether we use Woodmac’s C1 cash cost or CRU’s “liquid cost”.

Exhibit 3: 2017 Aluminium cost curve (\$/t)

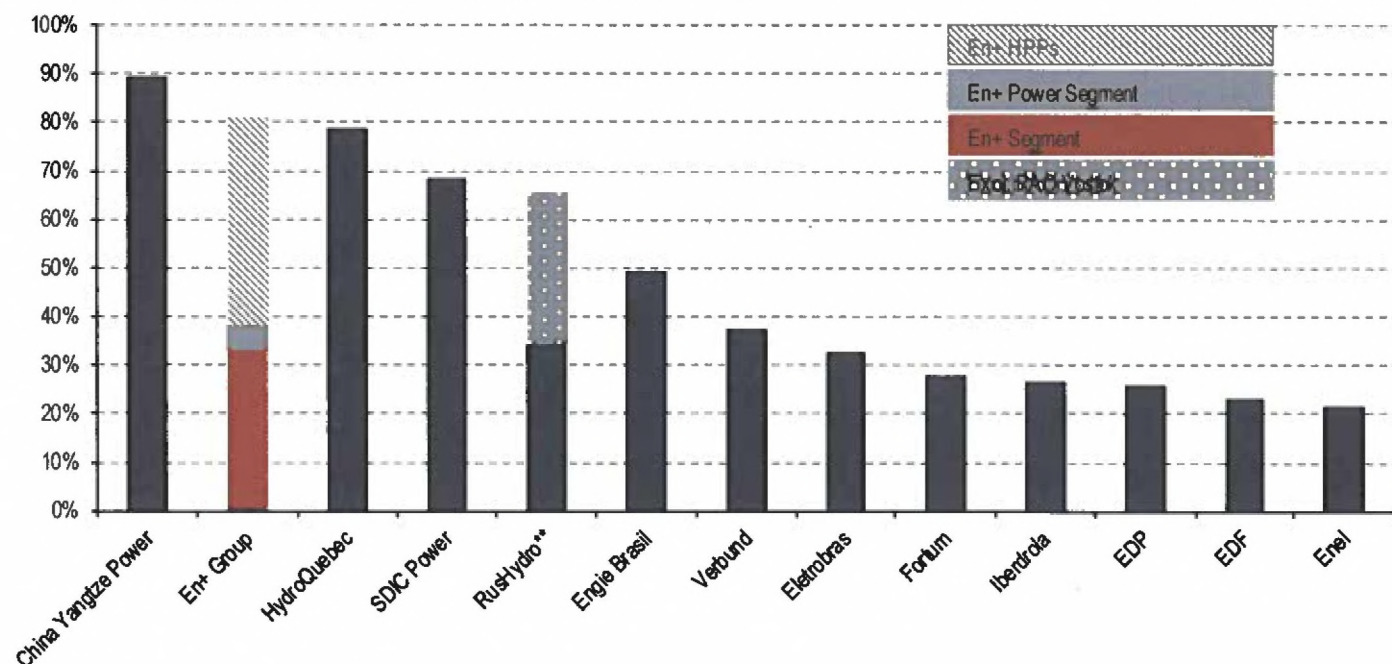
Source: Wood Mackenzie, 2017, Wood Mackenzie base case

Exhibit 4: CRU's "Liquid" cost for aluminium

Source: CRU

Margin comparisons vs. peers

Chart 20: EBITDA margin for power companies 2016* (%)

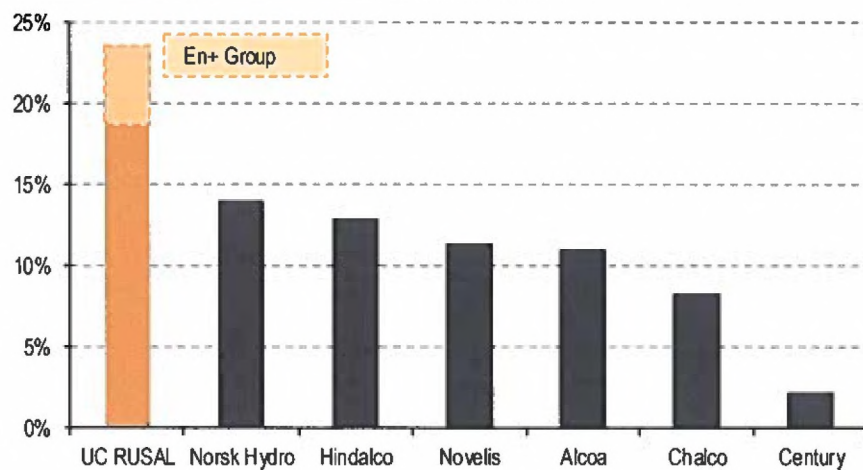


Source: BofA Merrill Lynch Global Research, Company data

* China Yangtze, SDIC Power figures as of 2015

** Excluding retail segment

Chart 21: EBITDA margin for aluminium companies 2016 (%)



Source: BofA Merrill Lynch Global Research, Company data

Green angle

Management of En+/Rusal believes that the group has an “integrated green business model”. We understand the thinking here. Electricity from En+’s Siberian hydro-electric power plans broadly cover Rusal’s power consumption (c. 60 TWh/yr).

If we compare this to China, where aluminium is typically smelted using power from coal-fired power plants, it seems there is no contest when it comes to ‘green’ credentials. We estimate that typical coal consumption to generate the 15-17 MWh of electricity required per tonne of aluminium is 4-6t. Similarly, low-cost smelters in the Middle East are fired by natural gas – lower carbon than coal but still higher carbon than Rusal’s hydro-powered smelters.

Even with hydro power, there is still a carbon footprint

That said, is there still a carbon footprint associated with En+/Rusal aluminium business? Of course. Consider the following (inter alia):

1. Petroleum consumption in bauxite mining/aluminium refining operations.
2. Coke/carbon consumption in smelting activities in both anodes (paste, pre-bake) and cathodes (linings).
3. Petroleum consumption for transportation of raw materials and finished products (Siberia is a long way from both suppliers and customers which means lots of land (rail) transportation).
4. Brown coal consumption in En+’s CHP (Combined heating/power plants).

Lower carbon, not no carbon

To be clear, we think the low-carbon “angle” is still a positive for Rusal but prefer to characterize the business as “lower impact” rather than out-and-out “green”.

Company statements on low carbon footprint

Rusal aims to become the supplier of choice in a global market and society that are serious about climate change issues and the global reduction of carbon emissions

Rusal is the leading global producer committed to 100% low-carbon electricity for its Russian smelters by 2020. The company has been consistently increasing its global capacity based on renewable sources.

Rusal has committed to further reduce the direct emissions from its operations (-15% for smelters and -10% for refineries by 2025 – base line 2014)

Rusal is working with international customers and stakeholders to promote the use of low-carbon aluminium and to contribute to the reduction of the global aluminium supply chain impact.

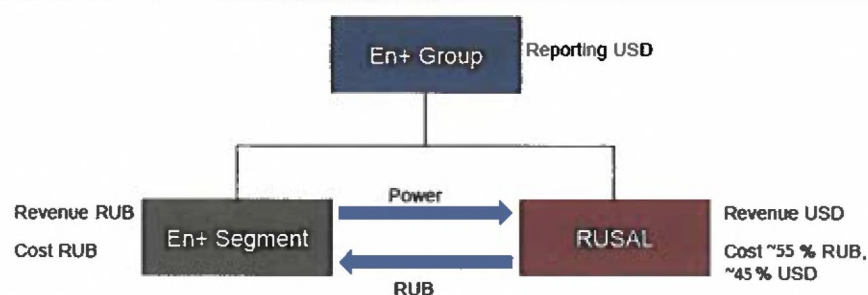
Green “achievements”

According to Rusal, Greenhouse gas emissions were reduced by more than 53% during 1990-2015.

According to the company, PFC emission per tonne of aluminium produced was reduced by 82% during 1990-2015.

Russian inflation/Rouble devaluation

En+ believes that there is a “complementary natural hedge” between Rusal and the En+ Energy segment, at least from an operating point of view.

Exhibit 5: Illustration of the impact of changing USD/RUB exchange rate

USD RUB \Rightarrow Power in USD Aluminium in USD

USD RUB \Rightarrow Power in USD Aluminium in USD

Source: En+

Operating "hedge"

Rusal produces a product priced in USD with a cost base that is 55% RUB and 45% USD. The En+ Energy segment has both revenues and costs in RUB.

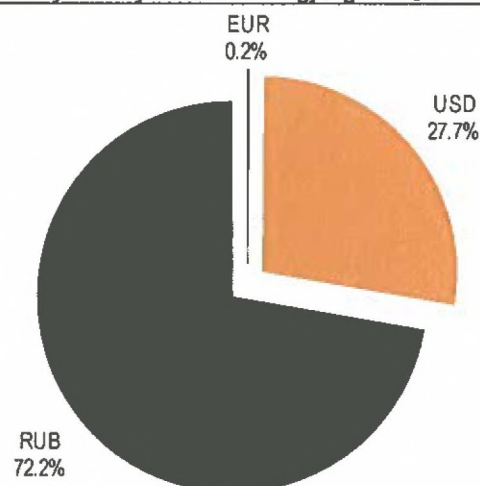
If the RUB strengthens vs the USD, the competitive position of the Rusal assets reduces because the RUB priced inputs (power, labour) cost more in USD. However, this should be at least partially offset by the higher translation of RUB earnings/cash flow from the En+ Energy segment.

If the RUB weakens vs. the USD, the RUB earnings of the En+ Energy segment are worth less in USD.

Balance sheet: diversified

The En+ Energy segment has a mixture of RUB- and USD-denominated debt. The mix is shown in the chart below:

Chart 22: Debt breakdown by currency for the En+ Energy segment @ 30 October 2017



Source: En+

To the extent that the RUB strengthens, the non-hedged RUB-denominated debt increases in USD. If the RUB weakens, the non-hedged RUB-denominated debt decreases in USD. Of course, inasmuch as this debt is "serviced" by the En+ Energy

segment, which earns in RUB, it does seem that the RUB is the appropriate currency. The trade-off is interest rates: RUB-denominated debt costs on average 11.5% against USD in tranches at 6.0% and 7.4% and EUR-denominated debt which costs <5%.

Company disclosed sensitivities

According to the company, the USD/RUB sensitivities are as follows:

For the Rusal segment, a RUB5/USD move should translate into a c.US\$250-280mn EBITDA impact (operating effect). Balance sheet, RUB-denominated debt is relatively low at c.RUB8bn = limited impact (i.e., only c.US\$140mn worth of RUB debt would be impacted).

For En+ Energy segment, we estimate that a RUB5/USD move should be roughly +US\$75-90mn EBITDA impact (operating effect). The company has not disclosed a comparable figure. The company has, however, provided an estimated group sensitivity matrix to 2016A EBITDA for a range of RUB/USD exchange rates.

Table 7: Estimated EBITDA sensitivities to RUB exchange rate based on 2016A EBITDA

| | Decrease | | | 2016A | Increase | |
|---|----------|------|-----|-------|----------|-----|
| RUB/USD | 55 | 60 | 65 | 67.03 | 70 | 75 |
| Total EN+ group | | | | | | |
| EBITDA US\$ mn / delta | -549 | -295 | -79 | 2311 | 107 | 268 |
| Delta % | -24% | -13% | -3% | 0% | 5% | 12% |
| En+ Group adjusted for UC Rusal share 48.13% | | | | | | |
| EBITDA US\$ mn / delta | -178 | -96 | -26 | 1539 | 35 | 88 |
| Delta % | -12% | -6% | -2% | 0% | 2% | 6% |

Source: En+ Group, BofA Merrill Lynch Global Research estimates

Asset description

En+ Energy segment

Hydro power assets overview

The 5 hydro power plants are combinations of concrete dam and adjacent hydroelectric power stations. The En+ HPP portfolio is comprised of 3 HPPs on the Angara River ("Angara cascade"), 1 HPP on the Yenisey river and 1 HPP leased to Rusal on the Onda river.

Table 8: Hydro Power Plants (HPP) portfolio

| | Irkutsk | Bratsk | Ust-Ilimsk | Krasnoyarsk | Ondskaya (Leased to Rusal) |
|-----------------------------------|--|---|--|---|---|
| Type | Run-of-river | Run-of-river | Run-of-river | Run-of-river | Run-of-river |
| Location | Irkutsk | Bratsk | Ust-Ilimsk | Krasnoyarsk | Karelia |
| River | Angara | Angara | Angara | Yenisey | Onda |
| Installed capacity (MW) | 662 | 4500 | 3840 | 6000 | 80 |
| Number of hydro units and runners | 8 | 18 | 16 | 12 | 4 |
| Key upgrade | Expected RUB2.8bn investment in replacement of 3 hydro units (runner + generator), 2017-2022 | RUB0.6bn investment in replacement of 6 runners, 2006-2010, 1st stage (completed) and expected RUB1.7bn investment in replacement of 6 runners from 2011-2017, 2nd stage (85% completion) | Expected RUB0.6bn investment in replacement of 4 runners, 2014-2018 (35% completion) | - RUB5.7bn investment in replacement of 12 hydro units, 1994-2014 (completed) - RUB1.0bn investment in renovation of open switchgears 220 kV and 500 kV (completed) - Expected RUB1.2bn investment in replacement of 2 runners, 2015-2018 (5% completion) | Since October 2014 Ondskaya HPP is leased to Rusal and its revenue is based on leasing payments |
| Year built | 1959 | 1961 | 1978 | 1967 | 1956 |

Source: BofA Merrill Lynch Global Research, Company presentation

Irkutsk hydro plant

The Irkutsk HPP is the first level of the Angara cascade. The construction of the dam began in 1950 and it was the first large HPP constructed in Eastern Siberia. Currently, the station operates 8 turbines.

Bratsk hydro plant

The Bratsk HPP is the second level of the cascade. From its full commissioning in 1967, the power plant was the world's single biggest power producer until 1971. Currently, it is the 15th largest HPP globally and the station operates 18 turbines with an individual capacity of 250 MW.

Ust-Ilimsk hydro plant

The Ust-Ilimsk is the last level of the Angara cascade. The construction began in 1963. The power plant operates 16 turbines and is the 18th largest HPP globally.

Krasnoyarsk hydro plant

The Krasnoyarsk HPP is located on the Yenisey River. It is mostly used to supply energy to the Krasnoyarsk Aluminium Plant. This HPP is the 10th largest globally and the power station operates 12 turbines.

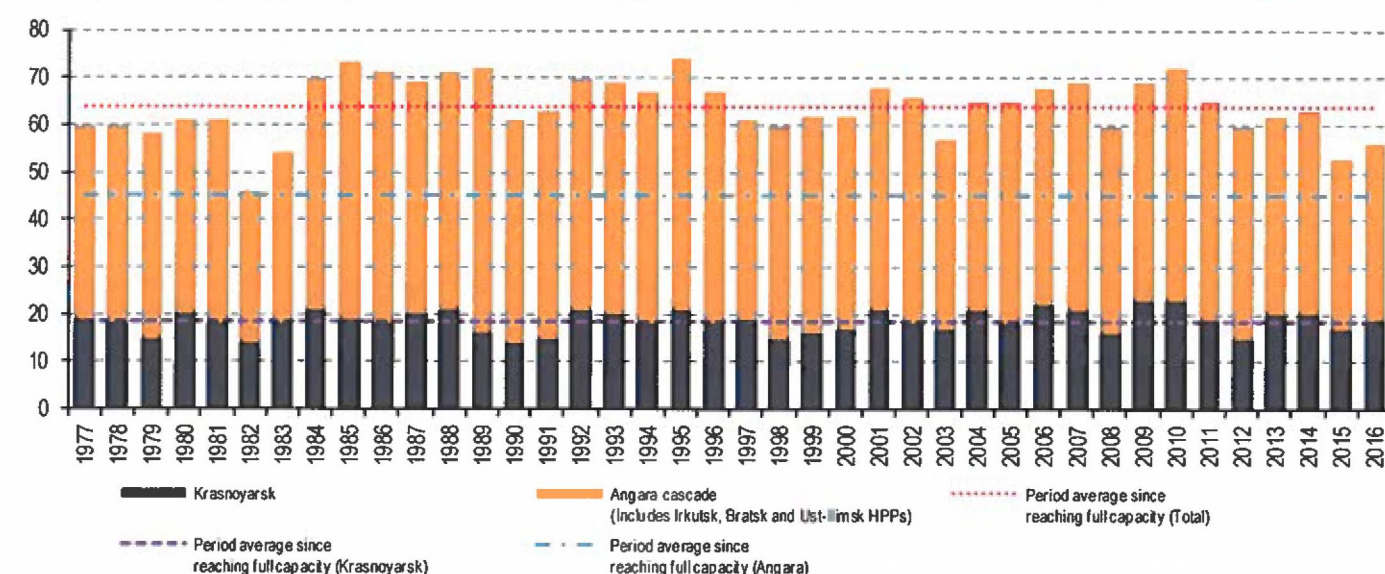
Ondskaya hydro plant

The Ondskaya HPP is located on the Onda River. Since October 2014, the HPP is leased to Rusal and its revenue is based on leasing payments.

Historical power production

We see that the historic average power production has been around 64 TWh / year. That said, we note that the last few years have seen lower production but nothing out of the range of historic norms. A Key factor impacting this will be local water levels ultimately affected by precipitation levels and water levels in Lake Baikal.

Chart 23: HPP Historical Production (TWh)



Source: BofA Merrill Lynch Global Research, Company data

Combined Heat and Power assets overview

The Combined Heat and Power assets portfolio consists of 19 electricity and heat CHPs located predominantly in Siberia. According to En+, the fuel mix is 83% coal and 17% gas. CHPs are primarily operated via combined cycle and stations are self-sufficient in coal. The coal is largely supplied by captive mines owned and operated by En+. The CHPs cover electricity demand which is not covered by HPPs.

Table 9: Major Combined Heat and Power (CHP) plants (1/2)

| | CHP-10 | Novo-Irkutsk | Avtozavodskaya | CHP-9 |
|---------------------------|------------|--------------|-------------------|------------|
| Type | Coal fired | Coal fired | Natural gas fired | Coal fired |
| Location | Angarsk | Irkutsk | Nizhniy Novgorod | Angarsk |
| Installed capacity (MW) | 1110 | 708 | 580 | 540 |
| Heating Capacity (Gcal/h) | 563 | 1729 | 2074 | 2403 |
| Year built | 1959 | 1975 | 1931 | 1963 |

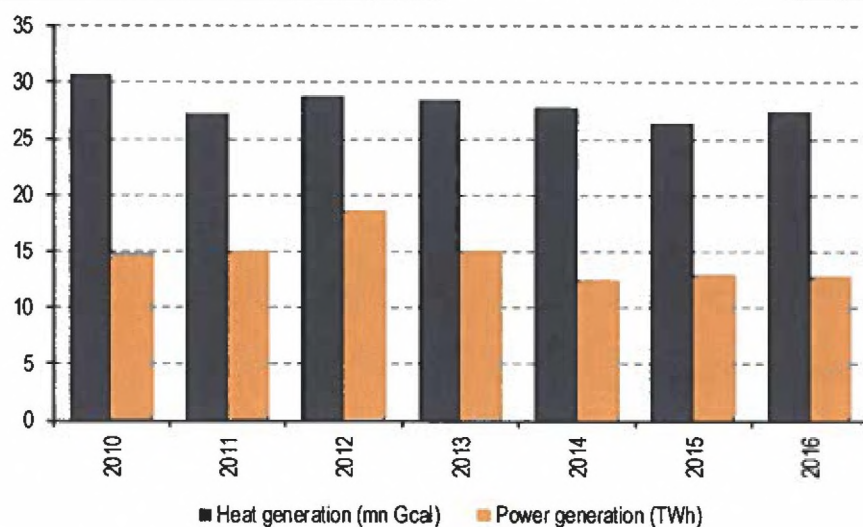
Source: BofA Merrill Lynch Global Research, Company presentation

Table 10: Major Combined Heat and Power (CHP) plants (2/2)

| | Ust-Ilyimskaya | CHP-11 | CHP-6 | Novo-Ziminskaya |
|---------------------------|----------------|-----------------|------------|-----------------|
| Type | Coal fired | Coal fired | Coal fired | Coal fired |
| Location | Ust-Ilyimsk | Ussolie-Sibirsk | Bratsk | Sayansk |
| Installed capacity (MW) | 515 | 350 | 270 | 260 |
| Heating Capacity (Gcal/h) | 1364 | 1285 | 1529 | 819 |
| Year built | 1978 | 1959 | 1964 | 1980 |

Source: BofA Merrill Lynch Global Research, Company presentation

Heat generation has gradually declined during 2010-2015 period due to modernization of heat grids and softening industrial demand.

Chart 24: CHP power generation (TWh) and heat generation (mn Gcal)

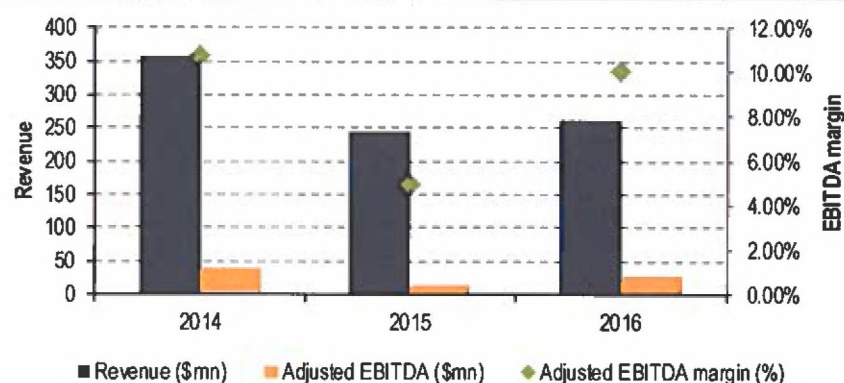
Source: BofA Merrill Lynch Global Research, Company data

Coal business overview

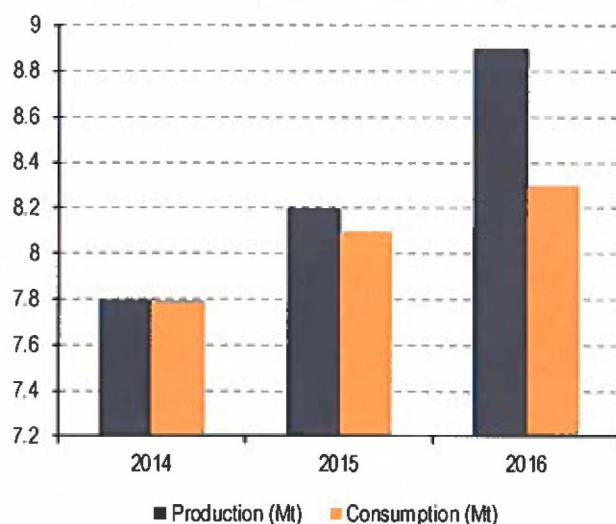
En+ Group operates open pit coal mines in order to secure the CHPs coal supply and decrease fuel and operational costs. The mines are located in Siberia, primarily in Irkutsk, Tuva and Krasnoyarsk regions with development projects in Khakassia and Tuva.

Exhibit 6: Coal assets location

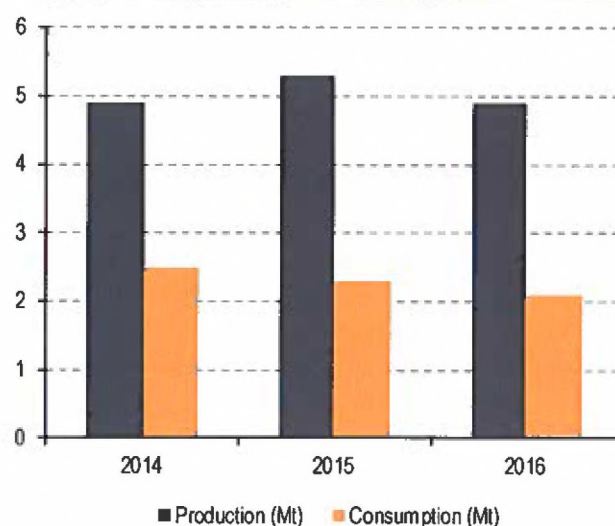
Source: En+ company presentation

Exhibit 7: Financial profile

Source: BofA Merrill Lynch Global Research estimates, Company data

Chart 25: Brown coal operating profile

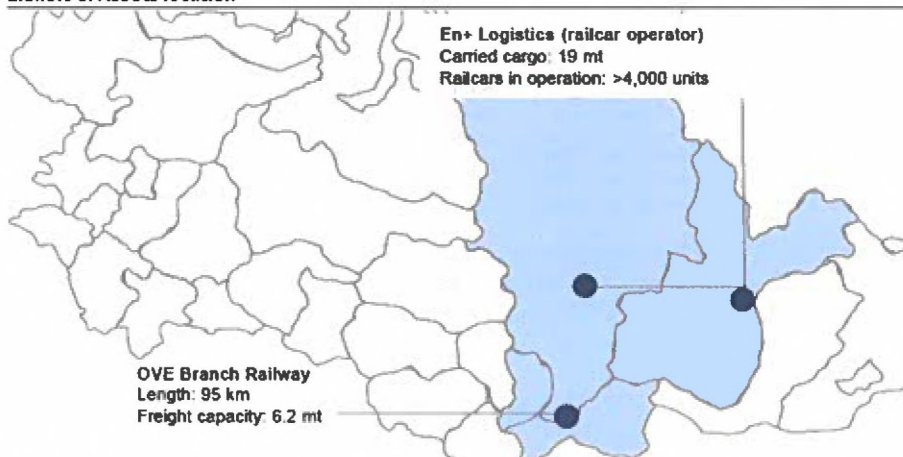
Source: BofA Merrill Lynch Global Research estimates, Company data

Chart 26: Black coal operating profile

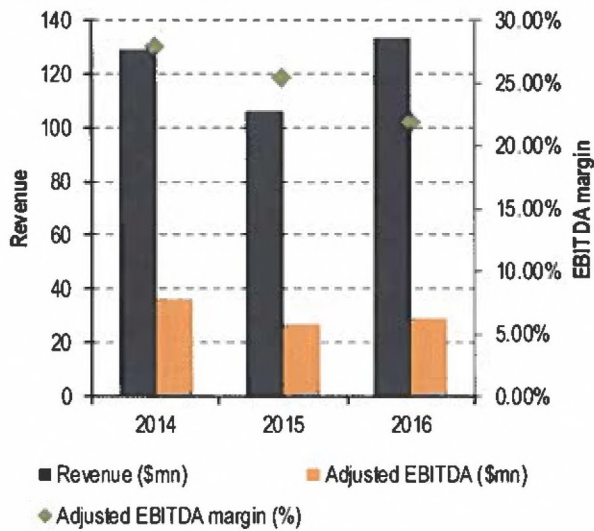
Source: BofA Merrill Lynch Global Research estimates, Company data

Logistics business overview

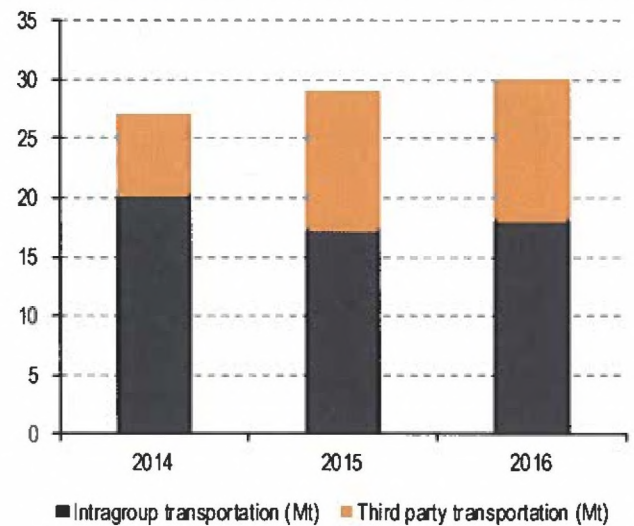
En+ logistics is primarily railway cargo operator with the main focus on captive volumes. The group can leverage on intragroup cargo transportation to earn additional profits from 3rd parties. En+ expands its rail road network in the Republic of Khakassia to serve Sayanogorsk and Khakass aluminium smelters, a number of local coal deposits and other businesses with own railroad in Khakassia.

Exhibit 8: Assets location

Source: Company presentation

Chart 27: Financial profile

Source: BofA Merrill Lynch Global Research, Company data

Chart 28: Operating profile

Source: Company data

Metals segment (Rusal)

Rusal's Aluminium Assets

Table 11: Summary table of Rusal's Aluminium assets

| Aluminium Smelters | Built | Capacity (kt) | Utilisation 2016 | Capacities | Customers | Technology | Energy Source | Location | Headcount |
|--------------------|-------|---------------|------------------|--|---|------------------------------|-----------------------|--|-----------|
| Bratsk | 1966 | 1006 | 100% | - | Automotive, construction, packaging, electrical, metals and mining industries | "Dry" anode | Bratsk HPP | Bratsk, Russia | 4000 |
| Irkutsk | 1962 | 410 | 101% | 4 potlines, 2 casthouses, anode production unit, anode assembly department | Aerospace, automotive, construction, packaging, electrical industries | Soderberg / prebaked anode | - | Irkutsk, Russia | 2400 |
| Krasnoyarsk | 1964 | 1013 | 101% | 25 potrooms, 3 casthouses, anode production unit | - | "Dry" anode, Clean Soderberg | Krasnoyarsk HPP | Krasnoyarsk, Russia | 4300 |
| Kandalaksha | 1951 | 76 | 92% | - | Electrical industry | Vertical stud Soderberg | NVA hydropower plants | Kandalaksha, Russia | 915 |
| KUBAL | 1942 | 128 | 97% | - | Automotive, construction and packaging industries | Prebaked anode | Local power grid | Sundsvall, Sweden | 450 |
| Novokuznetsk | 1943 | 215 | 99% | 3 potlines, casthouse, anode production unit | Aerospace, automotive, construction and electrical industries | Soderberg | - | Novokuznetsk, Russia | 1500 |
| Sayanogorsk | 1980 | 542 | 98% | 4 potlines, 1 casthouse | Transport, construction, electrical, metals and mining industries | Prebaked anode | - | Sayanogorsk, Eastern Siberia, Russia | 2736 |
| Khakas | 2006 | 297 | 99% | 1 potline, 1 casthouse | - | RA-300 | - | Sayanogorsk, Eastern Siberia, Russia | 428 |
| Nadvoitsy | 1954 | 24 | 50% | Potroom, casthouse | Automotive and packaging industries | Prebaked anode technology | - | Nadvoitsy, Republic of Karelia, Russia | 428 |

Source: BofA Merrill Lynch Global Research estimate, Rusal company website and annual reports, Wood Mackenzie

Table 12: Mothballed Aluminium assets

| Aluminium Smelters | Built | Capacity (kt) | Utilisation 2016 | Capacities | Customers | Technology | Energy Source | Location | Headcount |
|--------------------|-------|---------------|------------------|--|--|------------|---------------|---|-----------|
| Urals | 1939 | 75 | 0% | - | - | - | - | Kamensk-Uralsky, Russia (Sverdlovsk region) | - |
| Volgograd | 1959 | 66 | 0% | - | Automotive, packaging, electrical industries | - | - | Volgograd, Russia | - |
| ALSCON | 1997 | 24 | 0% | Potroom, casthouse, prebaked anode production unit | - | - | - | Ikot Abasi, Akwa Ibom State, Nigeria | - |

Source: BofA Merrill Lynch Global Research estimate, Rusal company website and annual reports, Wood Mackenzie

Bratsk

The Bratsk smelter is one of the largest in the world, and was the first aluminium producing facility globally to reach a capacity of one million tonnes. It is situated in Bratsk, by the Angara River in Russia and was commissioned in 1966. It produces primary aluminium alloys (slabs, small ingots, T-bars, electrical wire rod) which it sells to customers in Europe, Asia, USA and the CIS region. Main end-markets are automotive, construction, packaging, electrical, metals and the mining industry. Annual capacity is c. 1Mt of aluminium. Energy is sourced from the Bratsk HPP and c. 4000 people are working at the smelter.

Technology: "Dry" anode technology (Soderberg).

Irkutsk

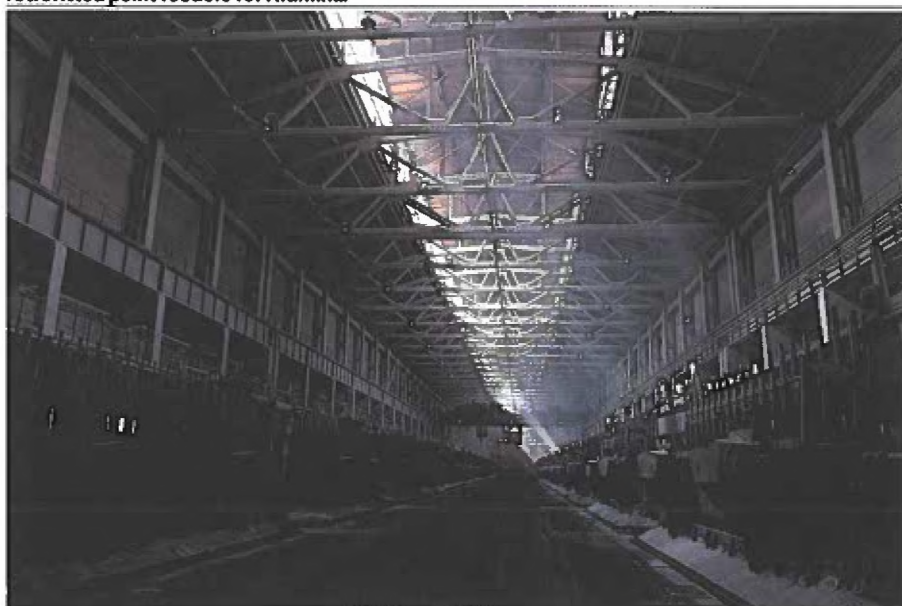
The Irkutsk aluminium smelter was commissioned in 1962 and is the oldest smelter in Eastern Siberia. It is located in Shelekhov, Irkutsk region in Russia. The annual production capacity is 410kt, which makes it one of the largest smelters in Russia. The facility includes 4 potlines, 2 casthouses, an anode production unit, and an anode assembly department. The headcount is c. 2400 people. The smelter's product set includes more than 100 varieties of aluminium alloy and more than 30 types of wire rod. Products with high added value account for 70% of the smelter's total output. In 2008 a 5th potline was commissioned. It reached full design capacity in 2010 and the plant mastered production of hi-tech wire rod with zirconium and new generation alloys for the transport and construction industries. In 2015, the smelter started a "Clean Soderberg" project in order to convert the plant's 1st, 3rd and 4th potlines to this technology. The project will reduce pollutant air emissions by 30% and increase the plant's eco-friendliness significantly. The projected is scheduled to be finished by 2020.

Technology: Soderberg cells. The smelter's 5th potline, is furnished with prebaked anode cells, operating at 300 kA.

Krasnoyarsk

Krasnoyarsk, commissioned in 1964, is one of the largest aluminium smelters in the world. It accounts for around 29% of aluminium production in Russia and 2% of the global aluminium output. Annual production capacity is c. 1Mt and the facility includes 25 potrooms, 3 casthouses and an anode production unit. About 4300 people work at the smelter and energy is sourced from the Krasnoyarsk HPP. The plant is focused on high quality products with a 36% share of hi-tech products and alloys. It's the only smelter in Russia and CIS to produce high-purity aluminium. Krasnoyarsk is also Rusal's core facility for testing and deploying new innovative technologies. Currently "inert anode technology" is being tested in one of the smelter's sections, which could completely eliminate any hazardous emissions and considerably cut operational costs. A modernization programme is in place, scheduled to be completed by 2018. It includes converting the potrooms to the environmentally friendly technology "Clean Soderberg" and improving the efficiency of the SEI calcining systems which are used in anode paste production.

Exhibit 9: Krasnoyarsk Smelter, typical installation. Note Vertical stud Soderberg cells with retrofitted point feeders for Alumina.



Source: UC Rusal Website

Technology: Most of the smelter's cells use dry anode technology. Each 3rd Krasnoyarsk smelter's potroom is converted to the "Clean Soderberg" technology.

Kandalaksha

The Kandalaksha smelter is Rusal's most northern facility, located in the Murmansk region above the Arctic Circle. It was commissioned in 1951 and has an annual capacity of 76kt of aluminium. The smelter's major customer is the electrical industry. Headcount is c. 915 people and energy is sourced from the NIVA hydropower plants. The facility benefits from access to the ports of Murmansk and Kandalaksha. In 2014, casthouse modernization was completed with the deployment of the rolling mill boosting wire rod output by 500kt per year.

Technology: Vertical Stud Soderberg (VSS)

KUBAL

KUBAL is the sole producer of primary aluminium and the largest industrial facility in Sweden. The smelter's capacity has grown more than 10 times since it was launched in 1942. KUBAL's extensive modernization, carried out by Rusal, has enabled the smelter to boost production efficiency and reduce the impact on the environment. Half of KUBAL's products are shipped to Swedish customers and the other half goes to clients in Europe. Main end-markets are the automotive, construction and packaging industries. It produces primary aluminium, alloys (slabs and billets). Annual production capacity is 134kt and the headcount is 450. The smelter is connected to the regional electricity grid. Electrical energy in Sweden is generated from nuclear and hydroelectric power plants, with an approximate equal split.

Technology: Prebaked anode technology.

Novokuznetsk

The Novokuznetsk smelter was commissioned in 1943 and is a veteran of World War II. Between 1943 and 1945, half of Russia's military airplanes were made from aluminium produced by the facility. Today, the aerospace industry is still one of the major consumers of the smelters' products. Other end-markets are the automotive, construction and electrical industries. The facility includes 3 potlines, a casthouse, and an anode production unit. Annual production capacity is 215kt and the smelter produces primary aluminium, alloys (small and large ingots, T-bars, billets). In 2016 the construction of the pilot area for "Clean Soderberg" technology also commenced. As part of the modernization program, all electrolytic equipment at the plant will be upgraded.

Technology: Soderberg technology.

Sayanogorsk

Sayanogorsk is Rusal's third largest aluminium smelter and Russia's largest producer of aluminium alloys. The annual capacity is 542kt and products include primary aluminium, alloys (ingots, T-bars, slabs and billets), and electrode production. The headcount is 2736 people and the facilities include 4 potlines, and 1 casthouse. Sayanogorsk is also one of Rusal's core sites for testing and deploying new cutting-edge technologies. Currently, the facility is being used to test the RA-400 cells, which are going to be introduced at the new Taishet smelter that is under construction.

Technology: Prebaked anode technology.

Khakas

The Khakas smelter was commissioned in 2006 and only took two years to build. It is the most up-to-date and technologically advanced smelter in Russia and is located in Sayanogorsk. It produces primary aluminium and alloys with an annual production capacity of 297kt. The Facility includes 1 potline and 1 casthouse. Headcount is 428 people.

Technology: Rusal's proprietary technology RA-300 that ensures reduced energy consumption and a longer lifetime for equipment.

Exhibit 10: Khakas Aluminium Smelter



Source: Rusal company website

Rusal's Alumina/Bauxite Assets

The Aluminium assets Rusal also have a number of Alumina refineries and Bauxite mines. The largest Alumina producing asset is Aughinish in Ireland. The facility has an annual capacity of 1915kt of Alumina and 1990kt of Hydrate. It includes a deep-water terminal on the Shannon estuary. Rusal has Bauxite mining operations in Guinea, Jamaica, Guyana and Russia. The largest Bauxite asset is CBK in Kindia, the Republic of Guinea. Currently it has an annual production capacity of c. 3.2Mt, accounting for c. 30% of the company's total bauxite output. Finally, Rusal also has packaging facilities in Russia and Armenia.

Table 13: List of Bauxite & Alumina assets

| Refinery/Mines | Commissioned/Built | Annual Capacity (kt) | Capacities | Location | Headcount |
|---------------------------|--|---------------------------------------|--|--------------------------------------|-----------|
| Aughinish | - | Hydrate: 1990kt Alumina: 1915 | Includes a deepwater terminal on the Shannon estuary | Aughinish island, Ireland | 450 |
| Euralumina | 1973 | Alumina: 1085 | Access to a seaport and two dedicated berths | Sardinia, Italy | 290 |
| Queensland Alumina | 1967 | Alumina: 4000kt RUSAL share: 750kt | Refinery, wharf, storage facilities on South Trees Island in Gladstone harbour. | Queensland, Australia | 1150 |
| Urals Smelter | 1939 | Alumina: 770kt | Alumina producing complex | Kamensk-Uralsky, Russia | - |
| Achinsk | 1970 | Alumina: 1069kt | The Kiy a-Shalyr nepheline mine, The Mazoul limestone mine, Alumina refinery, Calcined soda production unit. | Achinsk, Russia (Krasnoyarsk region) | 3669 |
| Bogoslovsk | 1943 | Alumina: 960kt | Alumina production complex, casthouse. | Krasnoturyinsk, Russia | 1500 |
| Nikolaev | 1980 | Alumina: 1600kt | - | Nikolaev, Ukraine | 1500 |
| Boksitogorsk | 1938 | Corundum products: 63kt | Corundum production unit, own power plant | Boksitogorsk, Russia | 1000 |
| Windalco | - | Alumina: 600kt Bauxite: 5Mt | Alumina refineries, open pit bauxite mines, shipping port, farms in Manchester and St. Ann | Jamaica | 915 |
| Frigula | Managed by RUSAL since 2002 and privatized in 2006 | Alumina: 618kt Bauxite: 2.1Mt | Frigula bauxite mine, alumina refinery, railway network. | Fria, the Republic of Guinea | 1069 |
| Bauxite Company of Guyana | Government of Guyana. Founded Rusal 90% share. | Bauxite: 2.3Mt | Number of rich Bauxite deposits | Georgetown, Guyana | 506 |
| CBK | Managed by RUSAL since 2001 | Bauxite: 3.2Mt | Develops one of the world's largest deposits | Kindia, the Republic of Guinea | 800 |
| North Urals | - | Bauxite: 3.4Mt | Underground mining | Severouralsk, Russia | 3700 |
| Timan | - | Bauxite: 3.2Mt | Open pit mine. Linked to a national railway line. | Ukhta, Russia | 680 |

Source: Company data

Metal Segment - Projects

Table 14: Rusal's major projects

| Project name | Ownership | Location | Commodity | Launch Time | Capacity | Spent to date | Next phase | Total spend | Notes |
|--------------|-----------|------------------------|-----------|--------------------------------|------------------------------|-----------------------------------|--------------------------------------|-----------------------------------|---|
| Taishet | 100% | Irkutsk Region, Russia | Aluminium | 2019 | 983 ktpa | \$2.2bn for both Taishet and Bemo | \$2.2bn for both Taishet and Bemo | \$4.4bn for both Taishet and Bemo | - |
| BEMO Smelter | 50% | Krasnoyarsk, Russia | Aluminium | End on 2018 | 600kt | \$2.2bn for both Taishet and Bemo | \$2.2bn for both Taishet and Bemo | \$4.4bn for both Taishet and Bemo | BEMO is 50:50 JV with RusHydro. The financing for the 1 st stage (~300 ktpa) is provided by VEB on project financing basis |
| Dian Dian | 100% | Guinea | Bauxite | Stage 1: 2018 Stage 2: 2022 | Stage 1: 3Mt Stage 2: 6Mt | - | development of the bauxite minefield | - | 2nd stage would make Rusal 100% self-sufficient on Bauxite |

Source: Company information.

Taishet Aluminium smelter

The Taishet Aluminium smelter is being constructed in the Irkutsk Region. It includes two lines. The 1st line (PC-1) has a capacity of 428.5 ktpa, and includes 352 potcells. The 2nd line (PC-2) capacity of 555.1 ktpa, and includes 352 potcells. Electric power consumption expected to be 14.2 billion kWh a year (including 6.4 billion kWh for 1st line). Rusal has already invested USD 796 million net of VAT (for 2 lines) as of April 1, 2017. The launch is expected in 2019.

Taishet is NOT in our model, subject to board approval & financing.

BEMO

The BEMO project is a 50/50 JV with RusHydro. The project refers to the construction industrial complex in Siberia, combining Boguchanskaya HPP and the Boguchansky aluminium smelter. The smelter has a total projected capacity of 600ktpa. It is split to two phases. The 1st stage involves reaching a capacity of 298ktpa (149ktpa already achieved). This stage is expected to be completed in the end of 2018 and the 2nd stage (300ktpa more) is to be considered with partner RusHydro. The technology uses is RA-300 but there is optionality available for the 2nd stage. The financing for the 1st stage is provided by VEB on project financing basis.

BEMO stage one is in our model, equity accounted. Phase II is NOT in the model, subject to board approval and financing. Financing for the 1st stage (~300 ktpa) is provided by VEB on project financing basis.

Dian Dian Bauxite mine

The Dian Dian project involves developing a bauxite mine in the Republic of Guinea. It is split into several stages. The first stage is expected to be completed in mid-2018, resulting in an annual bauxite capacity of 3Mt. The second stage is expected to be completed by late 2021 and foresees an increase in mining capacity by up to 6Mt per year. The 1st stage will cover approximately half of the group's material deficit, while the 2nd stage will make Rusal 100% self-sufficient when it comes to bauxite.

Dian Dian IS in our model – we assume a lower bauxite cost for the alumina business.

Additional projects

Rusal is investing in the Urals, Bogoslovsk and Nikolaev alumina refineries. Output will be increased by c. 440 kt per annum. It is also investing into the mothballed Friguia plant with annual capacity of c. 600 kt per year. The plant also includes on-site bauxite mining operations.

These "debottlenecking style" projects are in our model.

Aluminium view

From "Metals Strategist: 2019 – the year ahead: Metals and Mining Outlook", Lead

Author Michael Widmer, published 18 November 2018.

Table 15: Aluminium and alumina price forecast

| | Unit | Spot | 2016A | 2017A | 2018E | 2019E | 2020E | 2021E | 2022E | 2023E | 2024E | LT 2019\$ |
|----------------|---------|------|-------|-------|--------|--------|--------|-------|-------|-------|-------|-----------|
| Aluminium | US\$/t | 1892 | 1604 | 1969 | 2143 | 2025 | 2026 | 1989 | 1981 | 1972 | 1964 | 1736 |
| | US\$/lb | 0.86 | 0.73 | 0.89 | 0.97 | 0.92 | 0.92 | 0.90 | 0.90 | 0.89 | 0.89 | 0.79 |
| | % Chg | | 0.0% | 0.0% | -1.2% | -1.8% | 0.0% | 0.0% | 1.4% | 2.9% | 16.0% | |
| Alumina - spot | US\$/t | | 260 | 354 | 473 | 375 | 400 | 410 | 378 | 347 | 315 | 279 |
| | % Chg | | 0.0% | 0.0% | -11.5% | -26.8% | -13.3% | 0.0% | 5.5% | 12.8% | 16.0% | |

Source: BofA Merrill Lynch Global Research estimates, Bloomberg

Overview

Moving into 2018, market participants focused on the slow rebalancing of the aluminium market in China. Yet, even though fundamentals in the Asian country have strengthened, sanctions on Rusal have taken centre stage since April. Linked to that, prices will in all likelihood trade in tight range until there is more clarity over whether trade restrictions will be removed. Beyond that, given China's production curtailments, aluminium is in deficit, which should ultimately support prices; indeed, we see scope for a rally after Rusal sanctions are removed as pent-up demand is released.

Table 16: Aluminium supply and demand balance

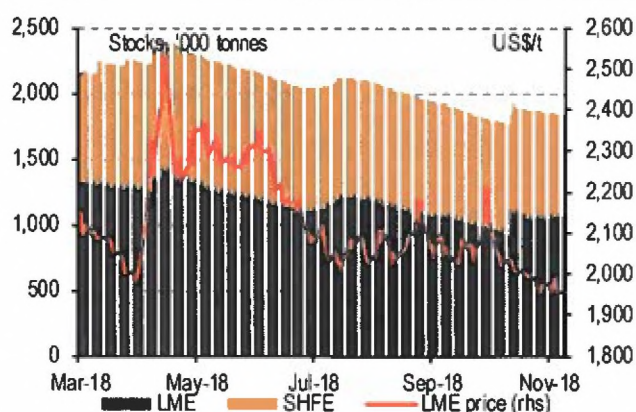
| '000 tonnes | 2015 | 2016 | 2017 | 2018E | 2019E |
|-----------------------|-------|-------|-------|-------|-------|
| Global production | 57636 | 58770 | 63341 | 64751 | 69938 |
| YoY change | 6.7% | 2.0% | 7.8% | 2.2% | 8.0% |
| Global consumption | 56703 | 59686 | 63447 | 66424 | 69492 |
| YoY change | 5.4% | 5.3% | 6.3% | 4.7% | 4.6% |
| Balance | 933 | -916 | -106 | -1673 | 446 |
| Market inventories | 13495 | 11856 | 11529 | 9856 | 10301 |
| Weeks of world demand | 12.4 | 10.3 | 9.4 | 7.7 | 7.7 |
| LME Cash (\$/t) | 1664 | 1664 | 1968 | 2143 | 2025 |
| LME Cash (c/lb) | 75 | 75 | 89 | 97 | 92 |

Source: SNL, Woodmac, CRU, Metal Bulletin, Reuters, Bloomberg, company reports, IAI, BofA Merrill Lynch Global Research

Physical market has stabilised

LME and SHFE inventories have declined persistently, highlighting that the global market has been in deficit.

Chart 29: LME and SHFE stocks have declined persistently



Source: Bloomberg, BofA Merrill Lynch Global Research

Chart 30: Alumina has gotten very expensive



Source: Bloomberg, BofA Merrill Lynch Global Research

Notwithstanding, prices have been range-bound after a spike in 2Q18, which was then driven by the US sanctioning Rusal. In our view, the move sideways has been heavily influenced by a reluctance of market participants to take positions as long as

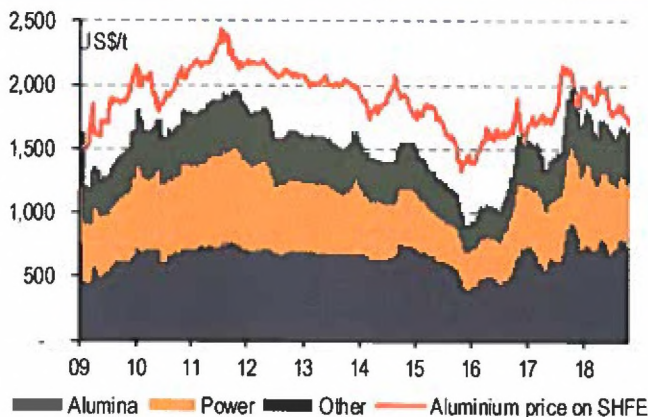
uncertainty persists over the fate of the company, which supplies a sizeable 6% of the global market. Indeed, any ruling on trade restrictions could be binary.

Highlighting the importance of Rusal to the global market and the approach US authorities have taken, Treasury Secretary Mnuchin recently said that the “The intent of sanctions is to affect behavior. The sanctions were against the oligarch, they weren’t against the companies. People should understand that sanctions are effective in impacting behaviour”, adding that “We completely understood in sanctioning Deripaska what the impact would be on Rusal, the aluminum market, and on our allies. Not only did we have certain expertise within Treasury but we reached out to other agencies to consult before we made this decision. This was a very well thought through decision”.

Discussions on sanctions relief are ongoing within the US, reflected in recent comments that licenses allowing Rusal to continue doing business have been extended. In our view, this suggests that aluminium could remain range-bound near-term. At the same time, the continued delay means that consumers especially in Europe may be reluctant to sign 2019 contracts with the Russian company, which could for instance lead to a build-up of inventories at Rusal. If sanctions were eventually removed, those stockpiles may then be moved to traders/ warehouses outside Russia, pressuring prices initially lower.

Yet, aluminium fundamentals are solid in our view, so aluminium quotations should recover after that. Chart 22 picks up on this, highlighting that the costs of some raw materials have risen at the same time as prices on Shanghai Futures Exchange have declined. Of course, this means that the margins of non-integrated smelters especially in China have compressed (Chart 24), one reason, the country’s aluminium production has been constrained YTD.

Chart 31: Production costs for an average non-integrated Chinese smelter have remained elevated, as SHFE prices have fallen...



Source: Bloomberg BofA Merrill Lynch Global Research

Chart 32: ... which meant that margins have been compressing



Source: Bloomberg BofA Merrill Lynch Global Research

Global aluminium production is declining

Digging a bit deeper, the rebalancing of the aluminium market has been heavily influenced by constrained aluminium supply. The production discipline is mirrored by Table 5, which shows that global output has risen by only 0.3% YoY YTD.

Looking at the regional breakdown behind this number, Table 5 suggests that the fall has emanated from a range of regions:

- production has dropped in North America on outages at RTA’s 450kt Becancour site in Canada (unions), as well as losses at Alcoa’s 160kt Warrick and Century’s 210kt Sebree smelters.
- Meanwhile, Hydro idled its 450kt Belem operation in Brazil on the back of the ongoing outage at its 6mt Alunorte refinery in the country.

- As to EMEA, there have been disruptions at Liberty House' 280kt Dunkirk site in France (power outage) and South 32's 700kt Hillside operation in South Africa (electric arc incident).

Table 17: China has led output cuts, but other regions are not growing either

| | Jan-Sep 2018 | Jan-Sep 2017 | YoY Annualised change | Annualised Sep-18 | Annualised Sep-17 | YoY Annualised change | Annualised Aug-18 | MoM change |
|-----------------------|-----------------|-----------------|--------------------------|----------------------|----------------------|--------------------------|----------------------|---------------|
| Africa | 1,247 | 1,257 | -0.8% | 1,679 | 1,679 | 0.0% | 1,695 | -1.0% |
| North America | 2,804 | 2,956 | -5.1% | 3,772 | 3,942 | -4.3% | 3,768 | 0.1% |
| Latin America | 890 | 1,038 | -14.3% | 1,083 | 1,351 | -19.8% | 1,119 | -3.2% |
| Asia | 3,296 | 2,891 | 14.0% | 4,429 | 4,161 | 6.4% | 4,439 | -0.2% |
| West Europe | 2,795 | 2,823 | -1.0% | 3,796 | 3,772 | 0.6% | 3,780 | 0.4% |
| East/Central Europe | 3,030 | 2,982 | 1.6% | 4,039 | 4,003 | 0.9% | 4,039 | 0.0% |
| Oceania | 1,432 | 1,338 | 7.0% | 1,935 | 1,910 | 1.3% | 1,919 | 0.8% |
| Middle East | 4,001 | 3,852 | 3.9% | 5,317 | 4,915 | 8.2% | 5,322 | -0.1% |
| China | 27,177 | 27,375 | -0.7% | 36,622 | 35,356 | 3.6% | 36,735 | -0.3% |
| Other non-IAI nations | 1,350 | 1,350 | 0.0% | 1,825 | 1,825 | 0.0% | 1,766 | 3.3% |
| IAI ex-China | 20,845 | 20,487 | 1.7% | 27,874 | 27,558 | 1.1% | 27,846 | 0.1% |
| IAI Total | 48,022 | 47,862 | 0.3% | 64,496 | 62,914 | 2.5% | 64,581 | -0.1% |

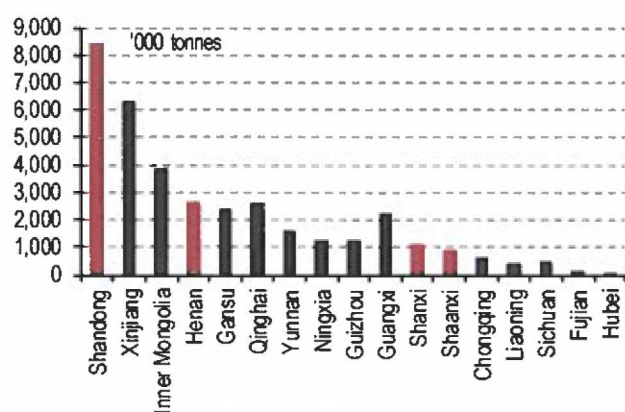
Source: IAI, BofA Merrill Lynch Global Research

Notwithstanding these production losses, China has accounted for the lion's share in output reductions. To that point, the country's supply declined by an annualised 1.3mt YoY in June. This was driven by a confluence of factors, including the illegal capacity closures announced in 2017. To that point, and confirming the effectiveness of the measures, when reporting results for 1H18 Hongqiao said that "the Group's aggregate production volume of aluminum alloy products amounted to approximately 3,187,000 tons (approximately 3,995,000 tons for the same period in 2017), representing a decrease of approximately 20.2% [...], as the Group responded to the supply side reform in China aluminum industry in closing down some production lines in the second half of 2017".

China will likely show discipline going forward

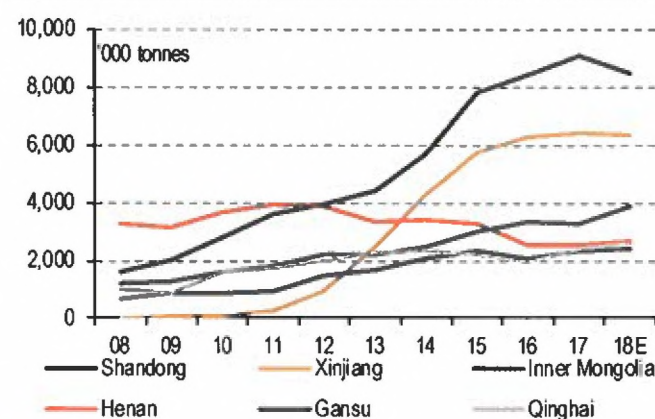
Going forward, we believe China's operators will remain disciplined. Indeed, the government recently published a 3-year Blue Sky action plan and authorities have outlined that new aluminium capacity is strictly prohibited in Beijing, Tianjin, Hebei, Shandong, Shanxi, Henan, Shanghai, Jiangsu, Zhejiang, Anhui and Shaanxi. This matters because Shandong and Henan have been key production hubs (Chart 25). In addition, China also aims to increase the elimination of backward production capacity and the reduction of excess capacity.

Chart 33: Shandong is a key aluminium production hub...



Source: company reports, Woodmac, CRU, BofA Merrill Lynch Global Research

Chart 34: ... but the government has enforced closures



Source: company reports, Woodmac, CRU, BofA Merrill Lynch Global Research

Exposure to Norilsk Nickel

En+ has significant 27.8% stake in Norilsk Nickel (Buy, PO US\$25.0/GDR) via Rusal. Norilsk Nickel should contribute a significant 64% to Rusal's pre-tax income in 2019E, according to our estimates. We have positive view on Norilsk Nickel.

Diversified mining company with main assets in Russia

Norilsk Nickel is a leading global producer of nickel, copper, palladium and other PGMs (platinum group metals). The core assets are located in Russia at two main production sites: the Polar division on the Taimyr Peninsula and Kola MMC on the Kola Peninsula production of approximately 300kt constitutes about 20% of global refined production.

High asset quality and stable production profile

Norilsk is a #1 producer of Class 1 nickel and #2 producer of nickel across all grades with 12% global market share. Norilsk Nickel also has the lowest cost of nickel production globally. It stands at negative(!) cUS\$12,000/t, according to WoodMac methodology, which allocates all costs to nickel and then reduces by the amount of the revenue coming from other metals sales considered as by-products (see [Norilsk Nickel: Catching up with improving macro, focus on growth in 2018E](#)).

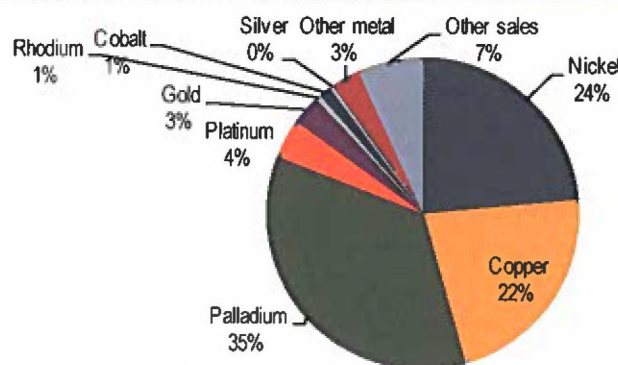
Compelling valuation/growth profile, high dividends and EV exposure = Buy

We have a positive view on Norilsk Nickel with PO US\$25.0/GDR. We like the stock for: (i) diversified metals basket, (ii) impressive 50% EPS growth in 2019E, (iii) an impressive 15% dividend yield in 2019-2020E, (iv) attractive valuation with discounts to peers and history, and (v) positive exposure to increasing penetration of EVs in the long-term (see recent [report on Norilsk](#)). Meanwhile, we believe Rusal sanctions removal would improve sentiment for all Russian miners and for Norilsk Nickel, particularly. Sanctions lifting should lead to lower risk premium for Norilsk Nickel (see [Rusal/En+ sanctions removal is supportive of Russian Metals & Mining](#)).

Bullish on PGMs

We have a bullish view on platinum group metals (PGMs). Palladium should account for 35% of Norilsk Nickel's revenue in 2019E. Positive impact from palladium prices should mitigate lower prices of platinum, which is about 5% of Norilsk's revenue, in our view (see [Global Metals & Mining: Bullish PGMs. The basket is going UP](#)).

Chart 35: Norilsk Nickel revenue per metal in 2019



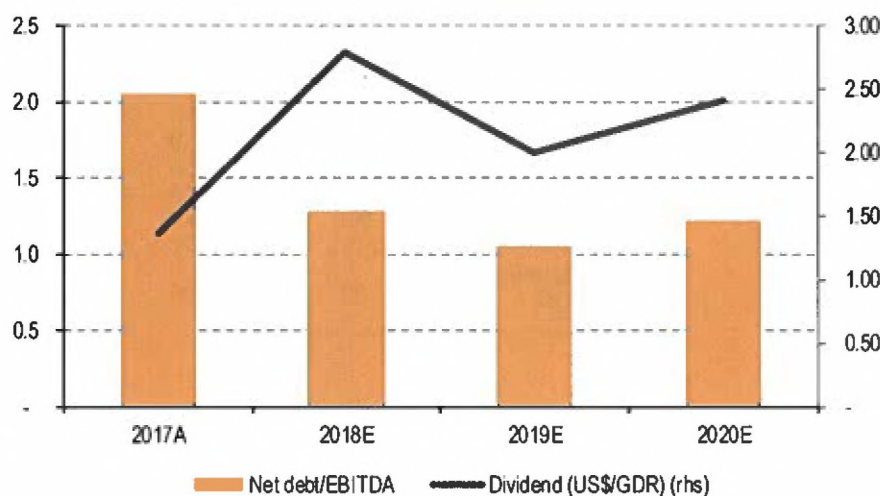
Source: BofA Merrill Lynch Global Research estimates

Impressive dividends well above peer's average

Norilsk Nickel's dividend policy is linked to EBITDA (30-60% payout) depending on the leverage (Net Debt/EBITDA ratio) with the minimal floor at US\$1bn for dividends. We forecast 60% dividend payout from the 2019-2020E EBITDA, given the net

debt/EBITDA ratio may remain at the level of 1.1-1.2x, well below 1.5x. Thus, we foresee 14% DY in 2019-2020E vs. peers' average of 6% over the same period.

Chart 36: Norilsk Nickel's net debt/EBITDA ratio



Source: BofA Merrill Lynch Global Research estimates

EV as a driver of metal demand

Norilsk produces nickel from the sulphide ore, which is, unlike laterite suitable for the production of nickel sulphates, the raw material for precursors in electric vehicle (EV) batteries. Norilsk is the second biggest nickel producer globally and the company may benefit from higher nickel demand on the back of the higher EV penetration. Currently, the EV batteries account for about 4% of global nickel consumption. In long term, this share may grow on the back of (1) higher EV penetration and (2) switch to higher nickel content batteries (i.e. to 8:1:1 nickel-manganese-cobalt type from 1:1:1) (see [Switch in EV battery technology: nickel to benefit, cobalt less](#)).

Attractive valuation makes the story more compelling

Norilsk Nickel trades at 5.3x 2019E EV/EBITDA and 6.5x 2019E P/E with discounts of 14% and 78%, respectively. We think hefty discounts to peers are unjustified given the stock offers a 14% dividend yield vs. peer's average of 6% alongside solid 50% EPS growth in 2019E.

Appendix I: metals supply demand balances

Table 18: Aluminium supply and demand balance

| '000 tonnes | 2015 | 2016 | 2017 | 2018E | 2019E |
|-----------------------|-------|-------|-------|-------|-------|
| Global production | 57636 | 58770 | 63341 | 64820 | 68726 |
| YoY change | 6.7% | 2.0% | 7.8% | 2.3% | 6.0% |
| Global consumption | 56703 | 59686 | 63447 | 66424 | 69492 |
| YoY change | 5.4% | 5.3% | 6.3% | 4.7% | 4.6% |
| Balance | 933 | -916 | -106 | -1604 | -766 |
| Market inventories | 13495 | 11856 | 11529 | 9925 | 9159 |
| Weeks of world demand | 12.4 | 10.3 | 9.4 | 7.8 | 6.9 |
| LME Cash (\$/t) | 1664 | 1664 | 1968 | 2143 | 2025 |
| LME Cash (c/lb) | 75 | 75 | 89 | 97 | 92 |

Source: SNL, Woodmac, CRU, Metal Bulletin, Reuters, Bloomberg, company reports, IAI, BofA Merrill Lynch Global Research

Table 20: Copper supply and demand balance

| '000 tonnes | 2015 | 2016 | 2017 | 2018E | 2019E |
|-----------------------|-------|-------|-------|-------|-------|
| Global production | 22314 | 22960 | 23062 | 23636 | 23830 |
| YoY change | 0.6% | 2.9% | 0.4% | 2.5% | 0.8% |
| Global consumption | 21926 | 22569 | 23043 | 23614 | 24111 |
| YoY change | 1.4% | 2.9% | 2.1% | 2.5% | 2.1% |
| Balance | 387 | 392 | 19 | 21 | -280 |
| Market inventories | 1228 | 1695 | 1644 | 1666 | 1385 |
| Weeks of world demand | 2.9 | 3.9 | 3.7 | 3.7 | 3.0 |
| LME Cash (\$/t) | 5512 | 4866 | 6165 | 6535 | 6313 |
| LME Cash (c/lb) | 250 | 221 | 280 | 296 | 286 |

Source: SNL, Woodmac, CRU, Metal Bulletin, Reuters, Bloomberg, company reports, ICSG, BofA Merrill Lynch Global Research

Table 22: Platinum supply and demand balance

| '000 ounces | 2015 | 2016 | 2017 | 2018E | 2019E |
|--------------------|-------|------|-------|-------|-------|
| Global production | 7605 | 7933 | 8132 | 7890 | 8015 |
| YoY change | 12.0% | 4.3% | 2.5% | -3.0% | 1.6% |
| Global consumption | 8193 | 8199 | 8018 | 7854 | 8130 |
| YoY change | 3.2% | 0.1% | -2.2% | -2.0% | 3.5% |
| Balance | -588 | -266 | 114 | 36 | -115 |
| Spot (\$/oz) | 1056 | 989 | 951 | 880 | 869 |

Source: Matthey, company reports, BofA Merrill Lynch Global Research

Table 19: Alumina supply and demand balance

| '000 tonnes | 2015 | 2016 | 2017 | 2018E | 2019E |
|-----------------------------------|---------|---------|---------|---------|---------|
| Global production | 112,099 | 114,073 | 123,841 | 126,148 | 138,144 |
| YoY change | 7.07% | 1.76% | 8.56% | 1.86% | 9.51% |
| Global consumption | 112,967 | 115,188 | 124,148 | 127,047 | 134,896 |
| YoY change | 6.67% | 1.97% | 7.78% | 2.34% | 6.18% |
| Balance | -868 | -1,115 | -307 | -899 | 3,248 |
| Capacity utilisation rate | 82.5% | 81.3% | 84.7% | 82.4% | 84.7% |
| Alumina spot FOB Australia (\$/t) | 306 | 260 | 354 | 473 | 375 |

Source: company reports, CRU, BofA Merrill Lynch Global Research

Table 21: Nickel supply and demand balance

| '000 tonnes | 2015 | 2016 | 2017 | 2018E | 2019E |
|-----------------------|-------|-------|-------|-------|-------|
| Global production | 1994 | 2030 | 2125 | 2229 | 2343 |
| YoY change | -1.7% | 1.8% | 4.7% | 4.9% | 5.1% |
| Global consumption | 1839 | 2031 | 2176 | 2290 | 2386 |
| YoY change | 1.9% | 10.5% | 7.1% | 5.2% | 4.2% |
| Balance | 155 | -1 | -51 | -61 | -43 |
| Market inventories | 592 | 570 | 510 | 449 | 406 |
| Weeks of world demand | 16.7 | 14.6 | 12.2 | 10.2 | 8.8 |
| LME price (\$/t) | 11836 | 9591 | 10405 | 13304 | 13625 |
| LME price (c/lb) | 537 | 435 | 472 | 604 | 618 |

Source: SNL, Woodmac, CRU, Metal Bulletin, Reuters, Bloomberg, company reports, INSG, BofA Merrill Lynch Global Research

Table 23: Palladium supply and demand balance

| '000 ounces | 2015 | 2016 | 2017 | 2018E | 2019E |
|--------------------|--------|-------|--------|--------|--------|
| Global production | 8,853 | 9,096 | 9,365 | 9,285 | 10,021 |
| YoY change | 0.9% | 2.7% | 3.0% | -0.9% | 7.9% |
| Global consumption | 9,141 | 9,352 | 10,079 | 10,218 | 11,084 |
| YoY change | -13.7% | 2.3% | 7.8% | 1.4% | 8.5% |
| Balance | -288 | -256 | -714 | -933 | -1,063 |
| Spot (\$/oz) | 838 | 614 | 871 | 1,030 | 1,475 |

Source: Matthey, company reports, BofA Merrill Lynch Global Research

Appendix II: En+ model summary

Exhibit 11: En+ model summary

| EN+ | | Prices & costs | | | | | Valuation | | | | | | |
|------------------|---------------|----------------------------|-------|-------|-------|-------|-----------|----------------|-------|-------|-------|-------|-------|
| | | 2016A | 2017A | 2018E | 2019E | 2020E | 2016A | 2017A | 2018E | 2019E | 2020E | | |
| BofAML Symbol | Price US\$8.1 | Aluminium LME US\$/lb | 0.73 | 0.89 | 0.97 | 0.92 | 0.92 | EVEBITDA | 7.9 | 5.6 | 5.3 | 6.1 | 6.1 |
| Bloomberg ticker | PO HK 11.00 | Aluminium LME US\$/t | 1,604 | 1,969 | 2,143 | 2,025 | 2,026 | P/E | 11.8 | 6.3 | 4.5 | 4.1 | 3.9 |
| Shares, mn | Upside 37% | Physical premiums US\$/t | 217 | 198 | 227 | 220 | 231 | P/B | 11.5 | 2.3 | 1.8 | 1.4 | 1.2 |
| Currency | | Average realized px US\$/t | 1,820 | 2,167 | 2,370 | 2,245 | 2,257 | FCF Yield | 38.5% | 61.6% | 36.8% | 51.9% | 55.0% |
| Last reported | | FX | 67.0 | 58.3 | 62.3 | 62.0 | 62.0 | Dividend Yield | 13.8% | 6.6% | 0.0% | 9.8% | 13.5% |

| Market value, US\$ | | Production | | | | | Target valuation | | | | | | |
|------------------------|--------|------------------------|-------|-------|-------|-------|------------------|----------|-------|-------|-------|-----|-----|
| | | 2016A | 2017A | 2018E | 2019E | 2020E | 2016A | 2017A | 2018E | 2019E | 2020E | | |
| Mkt cap | 4,600 | Power (TWh) | 69 | 69 | 71 | 76 | 77 | EVEBITDA | 9.6 | 6.9 | 6.5 | 7.4 | 7.5 |
| Last reported net debt | 13,549 | Primary Aluminium (kt) | 3,685 | 3,955 | 3,754 | 4,039 | 3,947 | P/E | 16.1 | 8.6 | 6.1 | 5.7 | 5.3 |
| EV | 18,149 | | | | | | | P/B | 15.7 | 3.2 | 2.4 | 1.9 | 1.7 |

| Income statement | | 2016A | 2017A | 2018E | 2019E | 2020E | Balance sheet | | 2016A | 2017A | 2018E | 2019E | 2020E | Cash flow | | 2016A | 2017A | 2018E | 2019E | 2020E |
|------------------|--|-------|--------|--------|--------|--------|----------------------------|--|--------|--------|--------|--------|--------|-----------------------|--|--------|--------|-------|--------|--------|
| Revenue | | 9,776 | 12,094 | 12,532 | 12,809 | 12,913 | Non-current assets | | 16,151 | 16,987 | 15,320 | 15,964 | 16,366 | Operating cash flow | | 1,950 | 2,654 | 1,850 | 2,466 | 2,386 |
| EBITDA adj | | 2,311 | 3,223 | 3,409 | 2,999 | 2,954 | Current assets | | 4,179 | 4,833 | 5,420 | 5,714 | 5,804 | Investing cash flow | | -180 | -124 | -158 | 205 | 442 |
| Net income adj | | 391 | 727 | 1,031 | 1,110 | 1,184 | Total Assets | | 20,330 | 21,820 | 20,740 | 21,678 | 22,171 | divis from associates | | 338 | 806 | 911 | 1,146 | 1,298 |
| Shares, mn | | 571 | 510 | 571 | 639 | 639 | Shareholders' equity | | 400 | 1,991 | 2,619 | 3,227 | 3,716 | capex | | -834 | -970 | -898 | -1,020 | -935 |
| EPS, US\$/sh | | 0.68 | 1.42 | 1.80 | 1.74 | 1.85 | Minority interests | | 1,785 | 2,394 | 3,033 | 4,025 | 4,875 | Financing cash flow | | -1,704 | -2,232 | -975 | -2,420 | -2,773 |
| DPS, US\$/sh | | 1.11 | 0.53 | 0.00 | 0.79 | 1.09 | Non-current liabilities | | 14,287 | 13,133 | 12,517 | 11,825 | 10,974 | Net Increase In Cash | | 68 | 298 | 717 | 251 | 55 |
| Pay-out ratio | | 163% | 37% | 0% | 45% | 59% | Current liabilities | | 3,858 | 4,302 | 2,571 | 2,601 | 2,606 | Cash at End | | 656 | 957 | 1,617 | 1,895 | 1,950 |
| | | | | | | | Total Equity & Liabilities | | 20,330 | 21,820 | 20,740 | 21,678 | 22,171 | Free cash flow | | 1,770 | 2,530 | 1,691 | 2,671 | 2,828 |
| EBITDA margin | | 24% | 27% | 27% | 23% | 23% | LT debt | | 12,095 | 10,962 | 10,563 | 9,871 | 9,020 | Debt to EBITDA | | 6.1 | 4.0 | 3.7 | 4.0 | 3.8 |
| Net margin | | 4% | 6% | 8% | 9% | 9% | ST debt | | 2,110 | 2,067 | 2,063 | 2,063 | 2,063 | Net debt to EBITDA | | 5.9 | 3.7 | 3.2 | 3.3 | 3.8 |
| ROA | | 2% | 3% | 5% | 5% | 5% | Total debt | | 14,205 | 13,029 | 12,626 | 11,934 | 11,083 | Operating CFPS | | 3.4 | 5.2 | 3.2 | 3.9 | 3.7 |
| ROE | | -53% | 61% | 45% | 38% | 34% | Net Debt | | 13,549 | 12,072 | 11,009 | 10,039 | 11,083 | Free CFPS | | 3.10 | 5.0 | 3.0 | 4.2 | 4.4 |
| ROIC | | 3% | 4% | 5% | 5% | 11% | | | | | | | | | | | | | | |

Source: BofA Merrill Lynch Global Research estimates

Appendix III: En+ financials

Table 24: En+ income statement

| Income statement US\$ mn | 2017 A | 2018E | 2019E | 2020E | 2021E | 2022E |
|--------------------------------------|---------------|--------------|--------------|--------------|--------------|--------------|
| Revenue | 12094 | 12532 | 12809 | 12913 | 12977 | 12993 |
| Cost of Sales | -7970 | -8255 | -8808 | -8896 | -9115 | -9226 |
| o / w Depreciation | -736 | -730 | -738 | -738 | -748 | -758 |
| Distribution ex pense | -666 | -673 | -710 | -735 | -761 | -788 |
| SG&A | -863 | -850 | -897 | -929 | -962 | -996 |
| Reversal (Impairment) | -89 | -209 | 0 | 0 | 0 | 0 |
| Net other ex penses | -136 | -127 | -133 | -137 | -142 | -147 |
| Operating profit | 2370 | 2419 | 2261 | 2215 | 1996 | 1836 |
| Share of Associates & JV | 621 | 1045 | 1508 | 1504 | 1509 | 1515 |
| EBIT | 2991 | 3464 | 3769 | 3720 | 3505 | 3351 |
| Interest income | 21 | 41 | 79 | 79 | 79 | 79 |
| Interest costs | -1117 | -993 | -1226 | -1226 | -1226 | -1226 |
| Net other financial income/(expense) | -277 | -111 | -150 | -150 | -150 | -150 |
| Profit before tax | 1618 | 2402 | 2473 | 2423 | 2208 | 2054 |
| Income tax expense | -215 | -331 | -371 | -388 | -375 | -370 |
| Profit after tax | 1403 | 2071 | 2102 | 2035 | 1833 | 1684 |
| Minority interest | -676 | -1040 | -992 | -851 | -786 | -744 |
| Net profit | 727 | 1031 | 1110 | 1184 | 1047 | 940 |

Source: BofA Merrill Lynch Global Research estimates, company report

Table 25: En+ balance sheet

| Balance Sheet US\$ mn | 2017 A | 2018E | 2019E | 2020E | 2021E | 2022E |
|---|--------------|--------------|--------------|--------------|--------------|--------------|
| ASSETS | | | | | | |
| Non-current assets | | | | | | |
| PP&E | 9940 | 9275 | 9557 | 9754 | 9940 | 10083 |
| Goodwill & intangible | 2392 | 2210 | 2210 | 2210 | 2210 | 2210 |
| Interest in Associates & JV | 4459 | 3565 | 3927 | 4132 | 4335 | 4543 |
| Long-term investments | 0 | 0 | 0 | 0 | 0 | 0 |
| Trade and other receivables | 0 | 0 | 0 | 0 | 0 | 0 |
| Deferred tax assets | 87 | 103 | 103 | 103 | 103 | 103 |
| Derivative financial assets | 34 | 18 | 18 | 18 | 18 | 18 |
| Other non-current assets | 75 | 149 | 149 | 149 | 149 | 149 |
| Total | 16987 | 15320 | 15964 | 16366 | 16755 | 17086 |
| Current assets | | | | | | |
| Short-term inventories | 0 | 0 | 0 | 0 | 0 | 0 |
| Inventories | 2495 | 2348 | 2413 | 2437 | 2497 | 2528 |
| Trade and other receivables | 1279 | 1426 | 1404 | 1415 | 1422 | 1424 |
| Prepaid expenses and other current assets | 56 | 0 | 0 | 0 | 0 | 0 |
| Derivative financial assets | 29 | 2 | 2 | 2 | 2 | 2 |
| Cash and cash equivalents | 974 | 1644 | 1895 | 1950 | 1037 | 1125 |
| Assets held for sale | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 4833 | 5420 | 5714 | 5804 | 4959 | 5079 |
| TOTAL ASSETS | 21820 | 20740 | 21678 | 22171 | 21714 | 22165 |
| EQUITY AND LIABILITIES | | | | | | |
| Share capital | 0 | 0 | 0 | 0 | 0 | 0 |
| Share premium | | 973 | 973 | 973 | 973 | 973 |
| Additional paid in capital | 9193 | 9193 | 9193 | 9193 | 9193 | 9193 |
| Revaluation reserve | 2471 | 2474 | 2474 | 2474 | 2474 | 2474 |
| Other reserves | 901 | -70 | -70 | -70 | -70 | -70 |
| Foreign currency translation reserve | -4544 | -4884 | -4884 | -4884 | -4884 | -4884 |
| Accumulated Losses | -6030 | -5067 | -4459 | -3970 | -3658 | -3464 |
| Shareholder Equity | 1991 | 2619 | 3227 | 3716 | 4028 | 4222 |
| Minority interest | 2394 | 3033 | 4025 | 4875 | 5661 | 6405 |
| TOTAL EQUITY | 4385 | 5652 | 7252 | 8591 | 9689 | 10627 |
| Non-current liabilities | | | | | | |
| Loans and borrowings | 10962 | 10563 | 9871 | 9020 | 7453 | 6960 |
| Deferred tax liabilities | 1306 | 1209 | 1209 | 1209 | 1209 | 1209 |
| Provisions | 542 | 491 | 491 | 491 | 491 | 491 |
| Derivative financial liabilities | 61 | 37 | 37 | 37 | 37 | 37 |
| Other non-current liabilities | 262 | 217 | 217 | 217 | 217 | 217 |
| Total non-current liabilities | 13133 | 12517 | 11825 | 10974 | 9407 | 8914 |
| Current liabilities | | | | | | |
| Loans and borrowings | 2067 | 2063 | 2063 | 2063 | 2063 | 2063 |
| Provisions | 40 | 42 | 42 | 42 | 42 | 42 |
| Trade and other payables | 2143 | 447 | 477 | 482 | 494 | 500 |
| Derivative financial liabilities | 52 | 19 | 19 | 19 | 19 | 19 |
| Liabilities held for sale | 0 | 0 | 0 | 0 | 0 | 0 |
| Total current liabilities | 4302 | 2571 | 2601 | 2606 | 2618 | 2624 |
| TOTAL LIABILITIES | 17435 | 15088 | 14426 | 13580 | 12025 | 11538 |
| TOTAL LIABILITIES + EQUITY | 21820 | 20740 | 21678 | 22171 | 21714 | 22165 |
| Check | 0 | 0 | 0 | 0 | 0 | 0 |

Source: BofA Merrill Lynch Global Research estimates, company report

Table 26: En+ cash flow statement

| Cash Flow Statement US\$ mn | 2017 A | 2018E | 2019E | 2020E | 2021E | 2022E |
|--|--------------|-------------|--------------|--------------|--------------|--------------|
| OPERATING ACTIVITIES | | | | | | |
| Profit / Loss for the year | 1403 | 2071 | 2102 | 2035 | 1833 | 1684 |
| Depreciation & Amortization | 736 | 730 | 738 | 738 | 748 | 758 |
| Impairment (Reversal) PP&E, investments | 89 | 209 | 0 | 0 | 0 | 0 |
| Foreign Ex change (gain) / loss | -29 | 199 | 0 | 0 | 0 | 0 |
| Loss on disposals | 28 | 5 | 0 | 0 | 0 | 0 |
| Share of profits of associates & JV | -621 | -1045 | -1508 | -1504 | -1509 | -1515 |
| Interest expense | 1117 | 993 | 1226 | 1226 | 1226 | 1226 |
| Discounting impacts | 5 | 0 | 0 | 0 | 0 | 0 |
| Interest income | -21 | -41 | -79 | -79 | -79 | -79 |
| Income tax expense | 215 | 331 | 371 | 388 | 375 | 370 |
| Dividend income | -1 | -1 | 0 | 0 | 0 | 0 |
| Inventory impairment (reversal) | 3 | -10 | 0 | 0 | 0 | 0 |
| Receivable impairment | 28 | 50 | 0 | 0 | 0 | 0 |
| Provisions | 3 | 0 | 0 | 0 | 0 | 0 |
| Change in value of derivatives | 287 | -155 | -128 | -126 | -125 | -123 |
| Share based compensation | 0 | 0 | 0 | 0 | 0 | 0 |
| Other | 1 | 31 | 128 | 126 | 125 | 123 |
| Operating cash flow pre-working capital | 3243 | 3367 | 2849 | 2804 | 2594 | 2443 |
| Subtotal working capital | -300 | -1247 | -13 | -31 | -55 | -26 |
| Operating cash flow pre-cash taxes | 2943 | 2120 | 2836 | 2773 | 2539 | 2417 |
| Cash taxes paid | -289 | -270 | -371 | -388 | -375 | -370 |
| Cash flows from operating activities | 2654 | 1850 | 2466 | 2386 | 2163 | 2048 |
| INVESTING ACTIVITIES | | | | | | |
| PPE disposals | 48 | 12 | 0 | 0 | 0 | 0 |
| PPE acquisitions | -970 | -898 | -1020 | -935 | -934 | -881 |
| Acquisition of intangible assets | -20 | -127 | 0 | 0 | 0 | 0 |
| Interest received | 14 | 40 | 79 | 79 | 79 | 79 |
| Dividends received | 806 | 911 | 1146 | 1298 | 1307 | 1307 |
| Acquisition/Disposal of available for sale investments | 0 | -79 | 0 | 0 | 0 | 0 |
| Acquisition/proceeds promissory notes | 10 | 3 | 0 | 0 | 0 | 0 |
| Repayment of short-term deposit | 0 | 0 | 0 | 0 | 0 | 0 |
| Proceeds from disposal of a subsidiary | 0 | -21 | 0 | 0 | 0 | 0 |
| Loans issued | -19 | 0 | 0 | 0 | 0 | 0 |
| Cash flows from investing activities | -124 | -158 | 205 | 442 | 452 | 505 |
| FINANCING ACTIVITIES | | | | | | |
| Net proceeds from borrowings | -1222 | 86 | -692 | -851 | -1567 | -493 |
| Acquisition of non-controlling interest | -241 | -105 | 0 | 0 | 0 | 0 |
| Net proceeds of equity offering | 1000 | 0 | 0 | 0 | 0 | 0 |
| Disposal of shares in subsidiaries | 0 | 0 | 0 | 0 | 0 | 0 |
| Interest paid | -980 | -964 | -1226 | -1226 | -1226 | -1226 |
| Restructuring fees and other expenses | -64 | -19 | 0 | 0 | 0 | 0 |
| Purchase of shares for vesting | 0 | 0 | 0 | 0 | 0 | 0 |
| Payments to settle derivatives | -182 | 95 | 0 | 0 | 0 | 0 |
| Acquisition of subsidiaries from related party | 0 | 0 | 0 | 0 | 0 | 0 |
| Distributions to shareholder | -15 | 0 | 0 | 0 | 0 | 0 |
| Dividends to shareholders | -373 | -68 | -325 | -499 | -535 | -562 |
| Dividends to non-controlling shareholders of subs | -155 | 0 | -177 | -197 | -200 | -184 |
| Cash flows from financing activities | -2232 | -975 | -2420 | -2773 | -3528 | -2465 |
| Cash flows before exchange impact | 298 | 717 | 251 | 55 | -913 | 88 |
| Foreign exchange impact | 3 | -57 | 0 | 0 | 0 | 0 |
| Cash and cash equivalents beginning of the year | 656 | 957 | 1644 | 1895 | 1950 | 1037 |
| Cash and cash equivalents end of the year | 957 | 1617 | 1895 | 1950 | 1037 | 1125 |
| Restricted cash | 17 | 95 | 0 | 0 | 0 | 0 |
| BS cash | 974 | 1644 | 1895 | 1950 | 1037 | 1125 |

Source: BofA Merrill Lynch Global Research estimates, company report

Table 27: Stocks mentioned

| BofAML Ticker | Bloomberg ticker | Company name | Price | Rating |
|---------------|------------------|----------------|-----------|--------|
| ENPL | ENPL LI | En+ Group | US\$ 8.95 | C-1-9 |
| XNRLF | GMKN RM | Norilsk Nickel | RUB 13534 | C-1-7 |
| RUAL | RUAL RM | Rusal | RUB 28.8 | C-1-7 |
| RUALF | 486 HK | Rusal | HK\$ 3.28 | C-1-7 |

Source: BofA Merrill Lynch Global Research

Price objective basis & risk

En+ Group (ENPL)

Our PO US\$11.0/GDR is derived using a sum-of-the parts (SOTP) approach. To arrive at our price objective, we use a SOTP valuation:

- We use our Rusal's target market cap of US\$11.0bn based on our PO of HKD5.5 to value En+ Group's 56.88% stake in Rusal at US\$6.3bn. We apply 10% discount to Rusal stake fair value to account for the holding discount.
- We apply a target EV/EBITDA of 5.5x to average 2019-20E earnings of the power business within the En+ Energy segment. Our target multiple is derived at a c.30% discount to the average European Power companies' EV/EBITDA of 8.0x for the same period. The discount to account for Russian country risk and the complicated shareholder history and structure of En+.
- We apply a mid-cycle EV/EBITDA of 4.0x to the average 2019-20E earnings of the coal, logistics and other businesses within the En+ Energy segment

Upside risks are 1) higher aluminium prices, 2) higher electricity prices, 3) perception of reducing country-specific risks.

Downside risks are 1) lower metal prices, 2) lower electricity prices, 3) perception of increasing country-specific risks.

Norilsk Nickel (XNRLF)

Our price objective of US\$25.0 per GDR (RUB16,604.00/share) is the average of P/E, EV/EBITDA and dividend valuation:

- we use 7.5x-7.0x 2019-20E P/E and 6.0x-5.5x 2019-20E EV/EBITDA, in line with Norilsk Nickel's historical multiples
- we use 9% target dividend yield, which is 2p.p. lower than Norilsk Nickel's historical 11%. We think that currently investors may require a dividend yield lower than historical due to Norilsk Nickel's exposure to the electric vehicle penetration growth in long term. We apply our target dividend yield to 2018-2020E dividend discounted using 13.3% cost of equity

We believe that the combined valuation approach captures both the earnings growth in 2018E and the value of the dividend stream relative to Norilsk's global peers.

The downside risks are: negative changes in metal prices due to economic events, speculator involvement or deterioration in fundamental demand, Russian political and regulatory risk, institutional fund flows out of Russia, international sanctions, further escalation of the conflict among the key shareholders of the company and operational and project execution risk.

Upside risks are: higher-than-expected metals prices, improvement in corporate governance, repeal of international sanctions against Russia resulting in better investor sentiment, lifting of US sanctions against Rusal (Norilsk Nickel's significant shareholder), resolution of the shareholder conflict via a mediator between Vladimir Potanin and Oleg Deripaska.

Rusal (RUALF / RUAL)

For our price objective of HKD5.5 (RUB45.98), we apply a SOTP approach:

- We apply an EV/EBITDA target multiple of 4.0x to the average 2019-2020E earnings of Rusal's aluminium business. Our target multiple is set at a 30% discount to the average global aluminium companies' EV/EBITDA to reflect the Russia country risk and complicated ownership structure of Rusal.

- We value Rusal's 27.8% stake in Norilsk Nickel at US\$11.0bn, based on our Norilsk Nickel valuation of US\$25.0/GDR (average of P/E, EV/EBITDA in line with historical multiples) and lower-than-historical dividend valuation to account for exposure to the electric vehicle penetration growth in long term.

Upside risks are 1) higher metal prices, 2) weaker RUB, 3) perception of reducing country-specific risks.

Downside risks are 1) lower metal prices, 2) stronger RUB, 3) perception of increasing country-specific risks

Analyst Certification

I, Anton Fedotov, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

EEMEA - Materials Coverage Cluster

| Investment rating | Company | BofA Merrill Lynch ticker | Bloomberg symbol | Analyst |
|---------------------|------------------------------|------------------------------|------------------|-------------------|
| BUY | | | | |
| | African Rainbow Minerals | AFBOF | ARISJ | Cedar Ekblom, CFA |
| | ALROSA | ARRLF | ALRS RM | Anton Fedotov |
| | Anglo Platinum | AGPPF | AMS SJ | Patrick Mann, CFA |
| | AngloGold Ashanti | AULGF | ANG SJ | Patrick Mann, CFA |
| | AngloGold Ashanti | AU | AU US | Patrick Mann, CFA |
| | En+ Group | ENPL | ENPL LI | Anton Fedotov |
| | Erdemir | ERELF | EREGL TI | Anton Fedotov |
| | Exxaro Resources | EXXAF | EXX SJ | Cedar Ekblom, CFA |
| | Gold Fields | GFI | GFI US | Patrick Mann, CFA |
| | Gold Fields | GFI OF | GFI SJ | Patrick Mann, CFA |
| | MMK | XGMJF | MMK LI | Anton Fedotov |
| | MMK | MGKPF | MAGN RM | Anton Fedotov |
| | Norilsk Nickel | NILSY | MNOD LI | Anton Fedotov |
| | Norilsk Nickel | XNRLF | GMKN RM | Anton Fedotov |
| | Royal Bafokeng Platinum | XRVBF | RBP SJ | Patrick Mann, CFA |
| | Rusal | RUALF | 486 HK | Anton Fedotov |
| | Rusal | RUAL | RUAL RM | Anton Fedotov |
| | Sibanye-Stillwater | SBGLF | SGL SJ | Patrick Mann, CFA |
| | Sibanye-Stillwater | SBGL | SBGL US | Patrick Mann, CFA |
| NEUTRAL | | | | |
| | Evraz | EVRZF | EVR LN | Anton Fedotov |
| | Harmony | HGMCF | HAR SJ | Patrick Mann, CFA |
| | Harmony | HMY | HMY US | Patrick Mann, CFA |
| | Kumba Iron Ore | KUMBF | KIO SJ | Cedar Ekblom, CFA |
| | NLMK | XKOVF | NLMK LI | Anton Fedotov |
| | NLMK | XNVLF | NLMK RM | Anton Fedotov |
| | Northam Platinum | NMPNF | NHM SJ | Patrick Mann, CFA |
| | Poly metal International Plc | XPMYF | POLY LN | Anton Fedotov |
| | Severstal | SVJTY | SVST LI | Anton Fedotov |
| | Severstal | JSCCF | CHMF RM | Anton Fedotov |
| UNDERPERFORM | | | | |
| | ArcelorMittal South Africa | ARCXF | ACL SJ | Cedar Ekblom, CFA |
| | Impala Platinum | IMP UF | IMP SJ | Patrick Mann, CFA |
| | Impala Platinum | IMPUY | IMPUY US | Patrick Mann, CFA |
| | KAZ Minerals Plc | KZMYF | KAZ LN | Jason Fairclough |
| | KGHM Polska Miedz | KGHPF | KGHPW | Anton Fedotov |

iQmethod™ Measures Definitions

| Business Performance | Numerator | Denominator |
|-----------------------------|---|--|
| Return On Capital Employed | $\text{NOPAT} = (\text{EBIT} + \text{Interest Income}) * (1 - \text{Tax Rate}) + \text{Goodwill Amortization}$ | $\text{Total Assets} - \text{Current Liabilities} + \text{ST Debt} + \text{Accumulated Goodwill Amortization}$ |
| Return On Equity | Net Income | Shareholders' Equity |
| Operating Margin | Operating Profit | Sales |
| Earnings Growth | Expected 5-Year CAGR From Latest Actual | N/A |
| Free Cash Flow | Cash Flow From Operations – Total Capex | N/A |
| Quality of Earnings | | |
| Cash Realization Ratio | Cash Flow From Operations | Net Income |
| Asset Replacement Ratio | Capex | Depreciation |
| Tax Rate | Tax Charge | Pre-Tax Income |
| Net Debt-To-Equity Ratio | $\text{Net Debt} = \text{Total Debt, Less Cash \& Equivalents}$ | Total Equity |
| Interest Cover | EBIT | Interest Expense |
| Valuation Toolkit | | |
| Price / Earnings Ratio | Current Share Price | Diluted Earnings Per Share (Basis As Specified) |
| Price / Book Value | Current Share Price | Shareholders' Equity / Current Basic Shares |
| Dividend Yield | Annualised Declared Cash Dividend | Current Share Price |
| Free Cash Flow Yield | Cash Flow From Operations – Total Capex | Market Cap. = Current Share Price * Current Basic Shares |
| Enterprise Value / Sales | $\text{EV} = \text{Current Share Price} * \text{Current Shares} + \text{Minority Equity} + \text{Net Debt} + \text{Other LT Liabilities}$ | Sales |
| EV / EBITDA | Enterprise Value | Basic EBIT + Depreciation + Amortization |

iQmethod™ is the set of BofA Merrill Lynch standard measures that serve to maintain global consistency under three broad headings: Business Performance, Quality of Earnings, and valuations. The key features of iQmethod are: A consistently structured, detailed, and transparent methodology; Guidelines to maximize the effectiveness of the comparative valuation process, and to identify some common pitfalls.

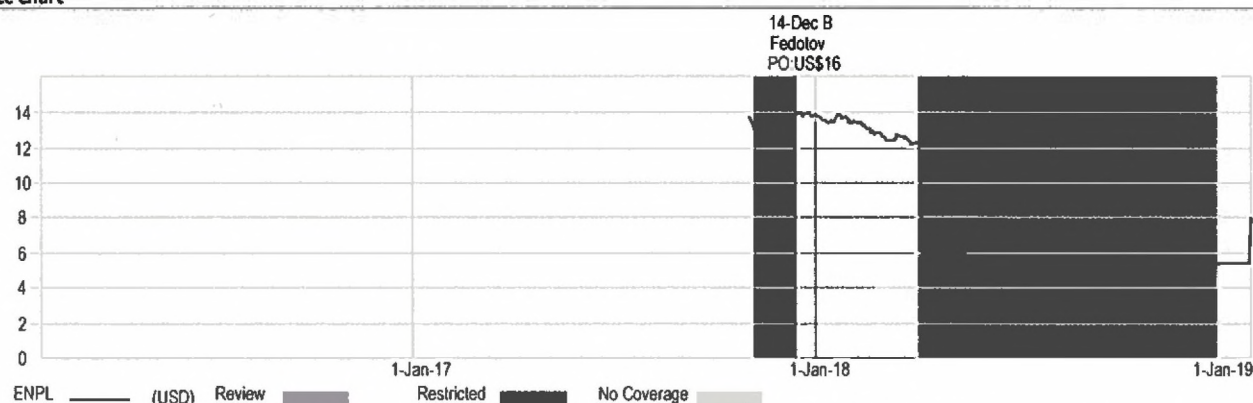
iQdatabase™ is our real-time global research database that is sourced directly from our equity analysts' earnings models and includes forecasted as well as historical data for income statements, balance sheets, and cash flow statements for companies covered by BofA Merrill Lynch.

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Disclosures

Important Disclosures

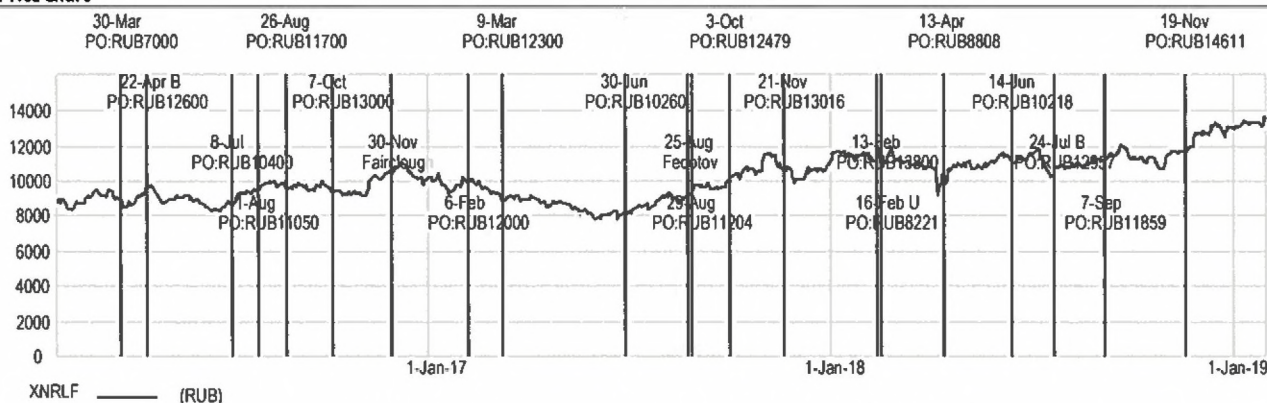
ENPL Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

The Investment Opinion System is contained at the end of the report under the heading 'Fundamental Equity Opinion Key'. Dark grey shading indicates the security is restricted with the opinion suspended. Medium grey shading indicates the security is under review with the opinion withdrawn. Light grey shading indicates the security is not covered. Chart is current as of December 31, 2018 or such later date as indicated.

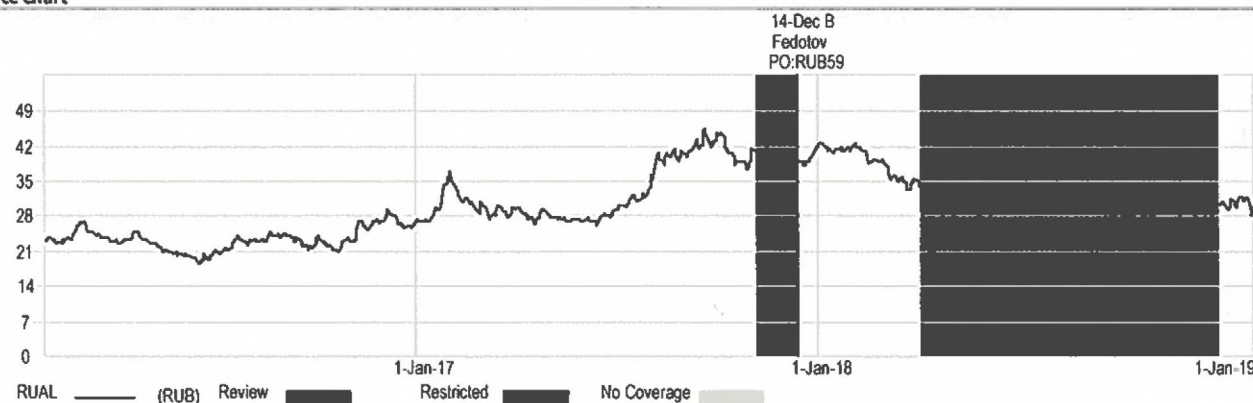
XNRLF Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

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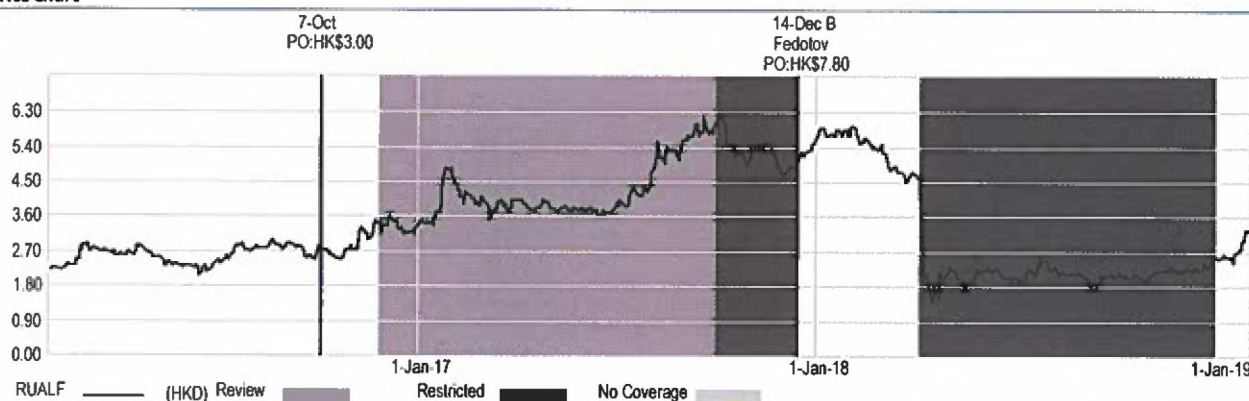
RUAL Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

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RUALF Price Chart



B: Buy, N: Neutral, U: Underperform, PO: Price Objective, NA: No longer valid, NR: No Rating

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Equity Investment Rating Distribution: Energy Group (as of 31 Dec 2018)

| Coverage Universe | Count | Percent | Inv. Banking Relationships* | Count | Percent |
|-------------------|-------|---------|-----------------------------|-------|---------|
| Buy | 114 | 60.64% | Buy | 86 | 75.44% |
| Hold | 36 | 19.15% | Hold | 26 | 72.22% |
| Sell | 38 | 20.21% | Sell | 16 | 42.11% |

Equity Investment Rating Distribution: Non-Ferrous Metals/Mining & Minerals Group (as of 31 Dec 2018)

| Coverage Universe | Count | Percent | Inv. Banking Relationships* | Count | Percent |
|-------------------|-------|---------|-----------------------------|-------|---------|
| Buy | 63 | 60.00% | Buy | 27 | 42.86% |
| Hold | 21 | 20.00% | Hold | 13 | 61.90% |
| Sell | 21 | 20.00% | Sell | 6 | 28.57% |

Equity Investment Rating Distribution: Global Group (as of 31 Dec 2018)

| Coverage Universe | Count | Percent | Inv. Banking Relationships* | Count | Percent |
|-------------------|-------|---------|-----------------------------|-------|---------|
| Buy | 1586 | 53.69% | Buy | 1017 | 64.12% |
| Hold | 690 | 23.36% | Hold | 432 | 62.61% |
| Sell | 678 | 22.95% | Sell | 328 | 48.38% |

* Issues that were investment banking clients of BofA Merrill Lynch or one of its affiliates within the past 12 months. For purposes of this Investment Rating Distribution, the coverage universe includes only stocks. A stock rated Neutral is included as a Hold, and a stock rated Underperform is included as a Sell.

FUNDAMENTAL EQUITY OPINION KEY: Opinions include a Volatility Risk Rating, an Investment Rating and an Income Rating. **VOLATILITY RISK RATINGS**, indicators of potential price fluctuation, are: A - Low, B - Medium and C - High. **INVESTMENT RATINGS** reflect the analyst's assessment of a stock's: (i) absolute total return potential and (ii) attractiveness for investment relative to other stocks within its Coverage Cluster (defined below). There are three investment ratings: 1 - Buy stocks are expected to have a total return of at least 10% and are the most attractive stocks in the coverage cluster; 2 - Neutral stocks are expected to remain flat or increase in value and are less attractive than Buy rated stocks and 3 - Underperform stocks are the least attractive stocks in a coverage cluster. Analysts assign investment ratings considering, among other things, the 0-12 month total return expectation for a stock and the firm's guidelines for ratings dispersions (shown in the table below). The current price objective for a stock should be referenced to better understand the total return expectation at any given time. The price objective reflects the analyst's view of the potential price appreciation (depreciation).

| Investment rating | Total return expectation (within 12-month period of date of initial rating) | Ratings dispersion guidelines for coverage cluster* |
|-------------------|---|---|
| Buy | ≥ 10% | ≤ 70% |
| Neutral | ≥ 0% | ≤ 30% |
| Underperform | N/A | ≥ 20% |

* Ratings dispersions may vary from time to time where BofA Merrill Lynch Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

INCOME RATINGS, indicators of potential cash dividends, are: 7 - same/higher (dividend considered to be secure), 8 - same/lower (dividend not considered to be secure) and 9 - pays no cash dividend. Coverage Cluster is comprised of stocks covered by a single analyst or two or more analysts sharing a common industry, sector, region or other classification(s). A stock's coverage cluster is included in the most recent BofA Merrill Lynch report referencing the stock.

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